Transcript Exhibit(s)

Docket #(s): WS-01303A-14-0010

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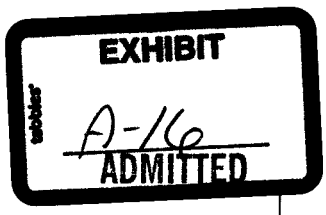

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

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

REBUTTAL TESTIMONY
OF
MIKE WORLTON, P.E.
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
FEBRUARY 9, 2015

REBUTTAL TESTIMONY
OF
MIKE WORLTON, P.E.
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
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EXECUTIVE SUMMARY

Mike Worlton testifies that:

The post-test year plant additions included in the filing are vital to providing continued reliable, safe and efficient service to our customers. All investment projects included in the filing were completed within 12 months from the end of the test year. The recurring projects included in the filing are a significant investment for the Company needed to continue to provide uninterrupted service to existing customers.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND TELEPHONE NUMBER.

A. My name is Mike Worlton. My business address is 2355 W. Pinnacle Peak Road, Suite 300, Phoenix, AZ 85027. My business phone is 623-445-2404.

Q. ARE YOU THE SAME MIKE WORLTON WHO PROVIDED DIRECT TESTIMONY IN THIS CASE?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The primary purpose of my rebuttal is to address issues relating to post-test year plant raised in the direct testimony of Mr. Frank Radigan on the behalf of the Residential Utility Consumer Office ("RUCO").

III. POST TEST YEAR PLANT

Q. AS AN INITIAL MATTER, CAN YOU DESCRIBE THE DIFFERENCE BETWEEN INVESTMENT PROJECTS AND RECURRING PROJECTS?

A. Investment Projects ("IPs") are defined as non-routine projects that have definitive start and stop dates, typically requiring total funding greater than $100,000, and involving engineering design and management.

Recurring Projects ("RPs") are projects which are more routine in nature or involve the replacement of existing assets required for normal business operation. These typically consist of smaller projects, less than $100,000 per project.

Q. SINCE THE FILING OF YOUR DIRECT TESTIMONY, ARE THERE POST TEST YEAR PLANT ADDITIONS THAT THE COMPANY INCLUDED IN ITS OCTOBER 14, 2014 FILING ("OCTOBER 14TH FILING")?

A. Yes.

Q. PLEASE DESCRIBE THOSE ITEMS.

A. Post-test year plant additions found in my direct testimony were estimated for any work that was not completed before the March 10th filing of my direct testimony. The October 14th Filing provides updated schedules based on final accounting for projects completed and in service by June 30, 2014 which is the post-test year period.

There were no additional IPs added to the October 14th Filing, although costs for Sun City Well #8.3 were removed. EPCOR Water Arizona, Inc. ("Company" or "EWAZ") made an internal decision to include this project in a subsequent rate case application for the Sun City Water District. There were several additions and deletions among the RPs, and those changes are documented in the revised Schedule B-2 exhibits. Table 1 below provides a key for locating the appropriate pages in the revised schedules submitted with the October 14th Filing:

Table 1. Reference to Revised Schedule B-2 (October 14th Filing)

District	Revised Schedule B (October 14th Filing)	Net Change ($)
Mohave Wastewater	Pages 8-10	(62,129)
Mohave Water	Pages 10-12	(782,554)
Paradise Valley Water	Pages 10-11	(200,391)
Sun City Water	Pages 10-11	(2,023,689)
Tubac Water	Pages 10-11	(28,497)

Q. MR. RADIGAN HAS RECOMMENDED THE DISALLOWANCE OF CERTAIN POST TEST YEAR PLANT INVESTMENT PROJECTS. WHAT IS THE BASIS FOR HIS RECOMMENDATION?

A. Mr. Radigan's recommendation is based on using a cutoff date of December 31, 2013 which is six months after the end of the test year. Any projects not completed and in service by December 31, 2013 have been disallowed by RUCO.

Q. WHICH IP PROJECTS WERE NOT COMPLETED WITHIN SIX MONTHS OF THE END OF THE TEST YEAR AND DISALLOWED BY RUCO'S WITNESS MR. RADIGAN?

A. Mr. Radigan recommends disallowance of the Laredo Vista Well #2, Mohave Water Well #16.4, the interconnection of Mohave Water and North Mohave Valley Corporation (NMVC) in the Mohave Water District, and the Sun City Well #8.3 which the Company has already excluded in the revised Schedule B-2 in the Company's October 14th Filing.

Q. DOES THE COMPANY AGREE WITH HIS RECOMMENDATIONS?

A. No. The post-test year period requested in the Company's filing covers the period from July 1, 2013 to June 30, 2014 which provided ample time for the parties to satisfy themselves that the projects were, in fact, completed and providing service to test year customers. All post-test year plant requested for inclusion in rate base in this proceeding

was completed by June 30, 2014. This 12-month period is the same length of time allowed in the recent Chaparral City Water Company rate application for the inclusion of post-test year plant additions in rate base. It is my understanding that the Commission has used this time period in other rate cases as well.

Q. ARE THERE SPECIFIC INVESTMENT PROJECTS MENTIONED IN MR. RADIGAN'S TESTIMONY THAT YOU WOULD LIKE TO ADDRESS?

A. Yes. Specifically, I would like to respond to Mr. Radigan's disallowances of the three IP projects in the Mohave Water District. The only reason Mr. Radigan provides for disallowing the three Mohave Water District investment projects is that they were not completed by December 31, 2013. Table 2 presents the in-service month for each of the investment projects included in our filing:

Table 2. In-Service Dates of Investment Projects (IPs)

Project	In Service
Laredo Vista Well #2	June 2014
Mohave Water Well #16.4	February 2014
Mohave Water / NMVC Interconnect	June 2014

Q. MR. RADIGAN ALSO RECOMMENDS A DISALLOWANCE OF ALL RECURRING PROJECTS. WHAT IS THE COMPANY'S RESPONSE?

A. Mr. Radigan argues that about half of the post-test year plant does not constitute a significant investment and that the remaining recurring projects are being done to reduce water losses. He references criteria from Commission Decision No. 71410 to justify these arguments.

As noted in Mr. Radigan's testimony, recurring projects account for a total of $6.1M, of the Company's requested post-test year plant which he characterizes as insignificant. Contrary to Mr. Radigan's arguments, I would argue that this magnitude of investment constitutes a significant investment by the Company and represents 45 percent of the total post-test year plant additions requested in this proceeding. In addition, these projects play a vital role in providing safe and reliable water service to our customers.

EWAZ has actively engaged in replacing meters that are well beyond their lifecycle, are inaccurate, are stuck, are blocked and are broken. The Company is replacing service lines that are leaking and is replacing valves that are broken and/or inoperable. These are activities of a responsible water utility and the replacement of aged and failing infrastructure is critical to ensuring the provision of reliable water service that meets safety standards for our customers. There are many outcomes from making these critical infrastructure replacements. These outcomes include preventing excessive property damage and risk to human health by ensuring main line valves operate when they are needed, providing sufficient fire flow capacity, ensuring leaking service lines do not allow entry of contaminants into the water supply network and ensuring that broken, stuck, blocked and inaccurate-registering meters operate properly and accurately measure water deliveries throughout the service territory. Furthermore, making the replacements at the right time prevents additional infrastructure failure from occurring and thereby preserves the life of other critical infrastructure components.

The assumption that all planned meter, service, and valve replacements are being done to decrease lost and unaccounted for water is not correct. Although controlling lost and unaccounted for water is a priority, this is not typically the driver for these projects. Planned replacement of aging infrastructure ensures continued reliable service to our

customers, and that is what drives our meter, service, and valve replacement program. Replacing failing infrastructure components is a best management practice that is an important part of any responsible utility's work.

Recurring projects completed in the post-test year period consist of either repairs or replacements of existing assets serving existing customer and are a significant investment needed to continue uninterrupted service.

Mr. Radigan uses the example of tools, vehicles and maps to establish that the recurring projects are not vitally necessary. He questions how vital these items are to the continued provision of service. Maps provide data about, and locations of, pipelines and valves that allow our field staff to effectively respond to customer needs and emergency situations. The vehicles and tools provide our employees with what they need to maintain our assets and respond to emergencies in a safe and efficient manner to control costs of the Company. All of this equipment is required to complete these replacements. To replace service lines, valves, and meters you need backhoes, hole hogs, pulling tools, saws, and pipe cutters to name a few. Without these tools it is not possible to make these infrastructure replacements.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

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

REJOINDER TESTIMONY
OF
TROY DAY
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
MARCH 5, 2015

REJOINDER TESTIMONY
OF
TROY DAY
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
MARCH 5, 2015

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EXECUTIVE SUMMARY

Troy Day testifies that:

Post test year plant additions, both investment projects (IP) and recurring projects (RP), are significant capital investments that are necessary to continue to provide safe, reliable drinking water to our customers. Much of the RP investment discussed is for the replacement of aging or failing infrastructure which not only helps provide uninterrupted service but also helps control maintenance and power expense which directly benefits the customers.

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE NUMBER.

A. My name is Troy Day. My business address is 2355 West Pinnacle Peak Road, Suite 300, Phoenix, Arizona 85027, and my telephone number is 623-445-2422.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by EPCOR Water USA, Inc. ("EWUS") as the Vice President of Arizona Operations.

Q. PLEASE BRIEFLY OUTLINE YOUR RESPONSIBILITIES IN ARIZONA.

A. I am responsible for the Operations, Engineering, Environmental Compliance and Water Resource functions of EPCOR Water Arizona. I direct the implementation of standards of practice, policies, and business plans to ensure operational efficiency and effectiveness. I ensure water and wastewater operations meet the required standards and are in compliance with all regulatory requirements. I also help guide the capital improvement program to ensure Arizona operation facilities comply with EWUS standards, as well as all regulatory requirements.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have worked for EWUS since it acquired Arizona American Water in 2012. I worked for Arizona American Water for over 11 years. Immediately prior to my current position, I served as the Production Director for American Water's Western Region. Before that, I was American Water's Director of Water Quality for its Western Region. I joined American Water after a career at the Arizona Department of Environmental Quality ("ADEQ") where I managed numerous programs including water permits and water

quality standards. Before working at ADEQ, I worked for the Arizona Department of Water Resources. I am a graduate of Arizona State University, with a B.S. in Geology.

Q. DID YOU PROVIDE DIRECT OR REBUTTAL TESTIMONY IN THIS CASE?

A. No, I did not. I am adopting the Direct Testimony and Rebuttal Testimony of Mr. Mike Worlton in this proceeding and will be addressing the issues raised in his testimony as part of this Rejoinder Testimony and during the hearing.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. I will address issues regarding post-test year plant additions raised by RUCO's witness, Mr. Frank Radigan, in his Surrebuttal Testimony.

III. RESPONSE TO RUCO

Q. DO YOU AGREE WITH MR. RADIGAN'S POSITION THAT POST TEST YEAR RECURRING PROJECTS SHOULD NOT BE INCLUDED IN IN RATE BASE?

A. No, I do not. These projects are critical to ensuring the delivery of safe and reliable water service to our customers, they are significant investments that were completed within 12 months of the test year in this proceeding and they are in use and providing benefit to our customers.

Q. DO YOU AGREE THAT THE SOLE PURPOSE OF INVESTING IN RECURRING CAPITAL PROJECTS IS TO REDUCE WATER LOSS?

A. No. As stated in Mr. Worlton's Rebuttal Testimony, it is wrong to assume that these projects are being done solely to decrease lost and unaccounted for water. Controlling lost and unaccounted for water is a priority for EWUS; however, the replacement of

aging and failing infrastructure is necessary to deliver reliable service and is a best practice that all responsible utilities should engage in. These replacements provide a great benefit to our customers in service reliability and in keeping maintenance and repair costs low.

Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY?

A. Yes.

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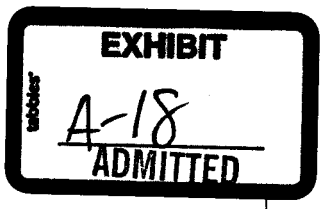

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

IN THE MATTER OF THE APPLICATION OF 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

DIRECT TESTIMONY OF JEFFREY W. STUCK

March 7, 2014

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EXECUTIVE SUMMARY

Mr. Stuck testifies that:

The purpose of my testimony in this proceeding is to describe the service areas and facilities for three of the districts that are included in this case: Paradise Valley Water, Mohave Water, and Mohave Wastewater. In addition, I support EWAZ's request for the inclusion of tank maintenance expense in the Paradise Valley Water district's cost of service. I also provide a description of the proposed small meter replacement program.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE NUMBER.

A. My name is Jeffrey W. Stuck. My business address is 6215 N. Cattletrack Rd., Scottsdale, Arizona, and my business phone is 623-445-3125.

Q. IN WHAT CAPACITY AND BY WHOM ARE YOU EMPLOYED?

A. I am employed by EPCOR Water USA ("EWUS") as Director of Operations for the Eastern Division.

Q. PLEASE DESCRIBE YOUR PRIMARY RESPONSIBILITIES FOR THE COMPANY.

A. My primary responsibilities are for water treatment and distribution, and wastewater collection and treatment, and ensuring safe and reliable service for EPCOR Water Arizona Inc. ("EWAZ" or "Company"), which includes the following districts: Mohave Water, Mohave Wastewater, Havasu Water, Paradise Valley Water, Anthem Water, and Anthem Wastewater. I also oversee the operations of Chaparral City Water Company.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATION.

A. I hold a Bachelor of Science Degree from Arizona State University. I have worked in the water industry for over 24 years. I began my career working at the Arizona Department of Water Resources where my duties included water rights investigations associated with the Little Colorado River Adjudication. In 1992, I began working for the Arizona Department of Environmental Quality in the Safe Drinking Water Program. Over the next 13 years, I held many positions in the ADEQ Safe Drinking Water Program with the last being the Safe Drinking Water Program Manager. In 2005, I joined EWUS, then Arizona American Water, as th

Western Region Environmental Director. Since 2007, I have been employed as the Eastern Division Operations Director with responsibilities including overseeing water and wastewater operations in the communities of Paradise Valley, Anthem, Bullhead City, and Lake Havasu. In 2012, my responsibilities were expanded to include Chaparral City Water Company, which provides service in and around Fountain Hills, AZ.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes.

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

A. The purpose of my testimony in this proceeding is to describe the service areas and facilities for three of the districts that are included in this case: Paradise Valley Water, Mohave Water, and Mohave Wastewater. In addition, I support EWAZ's request for the inclusion of tank maintenance expense in the Paradise Valley Water District's cost of service.

II. PARADISE VALLEY WATER DISTRICT

Q. PLEASE DESCRIBE THE PARADISE VALLEY WATER DISTRICT.

A. The Paradise Valley Water District is located in Maricopa County. It serves approximately half of the Town of Paradise Valley and portions of the City of Scottsdale. There are approximately 4,750 customers in the district.

Q. PLEASE DESCRIBE THE PARADISE VALLEY WATER PRODUCTION AND DISTRIBUTION SYSTEM.

A. Our Paradise Valley Water District customers currently receive treated water from six wells located on the eastern edge of the service territory. The wells range in depth from 1,000 feet to 1,800 feet and have flow rates from 1,300 gallons to 2,900 gallons per minute. The distribution system covers about 8.5 square miles and consists of approximately 121 miles of mains ranging in size from two inches to

30 inches in diameter. The system has nine pressure zones due to the varying elevations in the service area. The combined capacity of the 13 storage tanks is 4.529 million gallons. All water from our Paradise Valley Water wells is pumped to the Paradise Valley Arsenic Removal Facility (PVARF) for chlorination, storage and arsenic removal.

Q. **PLEASE PROVIDE SOME BACKGROUND REGARDING THE PARADISE VALLEY WATER DISTRICT WELLS 12 AND 12B.**

A. Well 12 was originally drilled in 1961 and was placed into service in January of 1962. When this well was placed in service, it had a pumping capacity of 2,300 gallons per minute (gpm). This well was in continuous service in the water system from 1962 to 2003. In 1997, Layne-Western was hired to perform a video assessment of the well. This assessment revealed that the well casing was in very poor condition with perforations severely plugged or washed out and several holes and broken sections of casing. As a result of this assessment, Layne–Western installed a well liner in 2003. Upon completion of the liner installation, the well capacity was restored to 1,800 gpm. From 2003 to 2011, the production capacity of the well gradually declined to 1,350 gpm. It was determined that the well could not be relined again and it became necessary to drill a replacement well. Well 12B was drilled and placed into service in 2012 with a pumping capacity of approximately 3,000 gpm. This well currently provides production to the meet the system demands for the Paradise Valley Water District. The original well 12 is still an active well and is used as back up for peak demand and emergencies should there be a failure in well 12B or another of the six active production wells in the District.

III. PARADISE VALLEY TANK MAINTENANCE PROGRAM

Q. PLEASE EXPLAIN THE PROPOSED TANK MAINTENANCE PROGRAM FOR THE PARADISE VALLEY DISTRICT.

A. The in-service dates for the existing tanks in the Paradise Valley Water District range from 1995 to 2006. In 2010, the Paradise Valley Water District procured the services of Tank Industry Consultants ("TIC") to perform inspections on one tank in this district. TIC is a professional engineering firm specializing in the design, specification, and evaluation of storage tanks. The scope of services performed by TIC included a careful study of the tank's interior, exterior, foundations, and accessories with an NACE-certified inspector. The resulting report by TIC included a detailed analysis of the tank's condition, recommended maintenance activities, suggested schedule of repairs, and an engineer's estimate of the cost to perform those repairs. The following items were inspected by TIC and addressed in their reports:

1. Site conditions, including observations of site access, general site security, site maintenance and foundation deficiencies.

2. Tank exterior conditions, including observations of dimensions of all manholes, vents, condition of exterior coating thickness, coating adhesion and metal corrosion, and baseline dimensions for comparison.

3. Tank interior conditions, including observations of the condition of the coating thickness, coating adhesion, metal corrosion, and observation of any debris, and baseline conditions for comparison.

Based on the observations by a professional inspector, TIC recommended that both the interior and exterior of the tank be stripped and recoated in addition to making modifications of the tank overflow, the exterior ladder and tank manhole. The inspection results on this tank are indicative of the general condition of the other tanks in the district and, therefore, require an overall tank maintenance strategy.

Q. **WHAT IS THE PLAN FOR TANK MAINTENANCE IN THE PARADISE VALLEY WATER DISTRICT?**

A. The tank maintenance plan for the Paradise Valley Water District was developed to ensure maintenance occurs at a frequency that balances the timing necessary to effectively and economically extend the life of these assets through maintenance activities and in a manner that is not overly burdensome to the customers. There is no clear industry standard frequency for tank maintenance and, as such, the Paradise Valley Water District plan has been developed based on the number of tanks in the district, the size of those tanks, and the material from which they have been constructed. The Paradise Valley Water District has nine tanks included in this plan, which has a 14 year term.

All of the tanks included in this overall plan are constructed of steel and ar in need of interior and exterior recoating and many will require structural repairs as well. The total anticipated cost for the Paradise Valley Water District tank maintenance plan is estimated to be $2,601,920. The Company is requesting that the recommended tank maintenance operation and maintenance expense in this case include an annual revenue stream of $185,851 for the Paradise Valley Water District. This annual revenue stream is derived from the recommendations of the TIC inspection report, and it is anticipated that this estimated expense would be available for review and adjustment when necessary in subsequent Paradise Valley Water District rate cases during the term of the plan.

IV. MOHAVE WATER DISTRICT

Q. **PLEASE DESCRIBE THE MOHAVE WATER DISTRICT.**

A. The Mohave Water District is located within the city of Bullhead City and in unincorporated areas of Mohave County. The overall service area covers approximately 17,397 acres (27.19 square miles). There are approximately 15,8(

customers in the district. The topography within the service area ranges in elevation from 590-1,260 feet. The Mohave Water District has one operating center and five separate water systems:

- The Bullhead City water system (PWS # 08-032), also known as the Main System, serves a majority of the Bullhead City area in Mohave County, with a certificated area of approximately 25 square miles.
- The Camp Mohave water system (PWS # 08-037) serves an unincorporated portion of southern Bullhead City, Mohave County, with a 0.5 square mile certificated area.
- Lake Mohave Highlands system (PWS # 08-062) serves an area located to the north of the main Bullhead City service area, with a service area of approximately 0.6 square miles.
- Desert Foothills system (PWS # 08-137) serves an area in the northwest corner of the main Bullhead City service area, with a service area of approximately 0.6 square miles.
- Rio Vista Ranches system (PWS # 08-333) serves a subdivision in southern Bullhead City, Mohave County, with a 0.5 square-mile certificated area.

Q. **PLEASE DESCRIBE THE MOHAVE WATER DISTRICT WATER PRODUCTION, TREATMENT AND DISTRIBUTION SYSTEM.**

A. The five systems within the Mohave Water district are not interconnected; each has its own water production, storage, and distribution facilities. All water in the Mohave Water district is provided from wells. The terrain of this service territory is varied, rocky and desert. As a result, maintaining proper pressure in the many pressure zones is the primary operational challenge. The water distribution system consists of approximately 199.7 miles of main, ranging in size from 2-inches to 18-inches. The treatment provided in the Mohave Water district is in the form of chlorination before the water enters the distribution system and there is an AdEdge AD26 oxidation/filtration technology for iron and manganese removal with a

granular activated carbon filter for Total Organic Carbon ("TOC") reduction in the Camp Mohave system.

The Bullhead City system consists of six groundwater production wells, ten storage tanks, two booster station sites, and a distribution system serving 14,300 customers. The storage tanks provide a combination of both gravity and pumped storage for the system. There is currently 3.2 Million Gallons ("MG") of gravity storage and 1.48 MG of pumped storage in the Main System. The Camp Mohave system has one pumping site consisting of a well, storage tank, pumping facilities and a distribution system serving 97 customers. This system is where the AdEdge AD26 iron and manganese removal plant with the granular activated carbon finishing filter for TOC reduction is located.

The Lake Mohave Highlands system is comprised of two production wells, three above ground storage tanks, three booster pump stations and a distribution network serving 249 customers. The storage tanks provide pumped storage for the system with total volume of 0.49 MG. This system has an emergency tie-in with the recently acquired North Mohave Valley Corporation Water Company served by a 4-inch meter.

The Desert Foothills system is supplied by two production wells, two storage tanks, two booster pump stations and a distribution network serving 1,028 customers. The storage tanks provide a combination of both gravity and pumped storage for the system with a total volume of 0.5 MG.

The Rio Vista Ranches system receives its water from the Bermuda Water Company through an interconnection with Bermuda Water Company. This system only has a distribution system serving approximately 97 customers.

Q. **WHAT IS THE NON-REVENUE WATER RATIO FOR THE MOHAVE WATER DISTRICT?**

A. The rolling 12-month non-revenue water ratio for the Mohave Water District is currently 9.24%.

Q. **IS THAT AN IMPROVEMENT OVER THE RECENT PAST?**

A. Yes, a significant improvement. In 2009-2012, the non-revenue water ratios for this district were 12.74%, 15.14%, 13.34%, and 11.41%, respectively. The problem peaked at 15.14% in 2010 and that is when the Company commenced an aggressive leak detection effort.

Q. **WHAT WORK HAS BEEN DONE TO FIND SOURCES OF NON-REVENUE WATER AND CORRECT THEM?**

A. In response to the rising non-revenue water ratio in the Mohave Water District, we started leak detection using a traditional type of acoustic leak detection device. We soon learned that because of soil types, bury depth and service line materials, this leak detection equipment was not working reliably or accurately. Consequently, we developed a modified leak detection method that involves isolating a section of main and listening to leak returns in that particular section. This has resulted in the detection of service line leaks that previously went undiscovered with the traditional acoustic approach.

Better able to locate leaking sections of main, we began a concerted service line replacement program in the Mohave Water district. We have also been actively replacing aging customer meters to ensure older, less accurate meters are removed from service. Finally, we test and, if necessary, calibrate all meters three inches and larger each year. The result has been a substantial reduction in non-revenue water in this district.

Q. **HOW MANY EMPLOYEES ARE CURRENTLY CHARGED WITH OPERATING THE MOHAVE WATER DISTRICT?**

A. There are 17 employees who operate and maintain the water system, read meters, and provide customer service to more than 16,800 customers.

V. **MOHAVE WASTEWATER DISTRICT**

Q. **PLEASE DESCRIBE THE MOHAVE WASTEWATER DISTRICT.**

A. The Mohave Wastewater system is located in the community of Fort Mohave. The Fort Mohave area is served by our Wishing Well Wastewater Treatment Plant ("Wishing Well"), a 400,000 gpd extended aeration wastewater treatment plant located south of Bullhead City. The treatment process consists of headworks, which include a grit basin and fine screen, Parshall flume meter, aeration and anoxic basin with nitrification and denitrification capability, secondary clarifiers multi-media filters, chlorine contact basin, clear well with pump station, sludge holding tank and sludge dewatering unit. The effluent is delivered and sold offsite for beneficial reuse in man-made lakes at the Lakes at Los Lagos subdivision. The Fort Mohave service area is approximately 3.5 square miles and there are approximately 1,700 customers in the wastewater service territory.

Q. **HAS THE PLANT CHANGED IN CAPACITY AND OPERATION SINCE THE LAST RATE APPLICATION FILING?**

A. Yes, the Wishing Well plant had an original design capacity of 250,000 gallons per day. This plant was expanded in 2008 to 500,000 gpd to accommodate increased flows that were being received from the wastewater service territory. The plant was designed as an extended aeration plant that would produce class B quality treated effluent. The effluent from the Wishing Well plant was provided to the Desert Lakes Golf Course, which is adjacent to the Wishing Well plant, to be used for irrigation of the golf course facility.

In June 2012, the owner of the Desert Lakes Golf Course notified EPCOR that they were canceling the agreement for the provision of effluent. Upon receipt of this cancellation, EPCOR identified another potential effluent customer adjacent to the Wishing Well Plant. The Buena Vista Homeowners Association ("BVHA") represents a tract of homes that are surrounding a manmade lake in the development known as the Lakes at Los Lagos. EPCOR approached the BVHA to determine if there was any interest in receiving treated effluent to fill the BVHA's lake. At the time, BVHA was filling this lake with pumped groundwater and was very interested in replacing the pumped groundwater with treated effluent.

In order to provide effluent to the BVHA, however, it was necessary for EPCOR to make operational changes that would allow the plant to produce A+ quality effluent and to construct a six inch force main to deliver the effluent. An agreement was entered into with BVHA for them to receive A+ effluent from EPCOR and to pay for the installation of the force main. The modifications to the plant included converting an existing aeration basin to an anoxic zone for denitrification. Other modifications included adding an airlift mixed liquor return pump and associated piping, installation of baffling in the chlorine contact chamber, replacement of diffusers throughout the plant, as well as installation of dissolved oxygen (DO) analyzers. These changes resulted in a de-rating of the plant capacity from 500,000 gallons per day capacity to 400,000 gallons per day capacity. This change in plant capacity and treatment capability is now reflected in the ADEQ APP permit for the Wishing Well Plant. ADEQ APP Permit Number P-102181 lists an operational capacity of 0.4 million gallons per day and establishes A+ effluent requirements.

VI. SMALL METER REPLACEMENT PROGRAM

Q. WHAT IS THE COMPANY'S STANDARD FOR REPLACING SMALL WATER METERS?

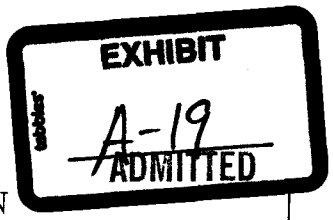
A. EWAZ is proposing to establish a small meter replacement frequency of 12 years. Over time, water meter accuracy degrades and results in the under registering of water delivery volumes. This under registration results in inaccurate billing, inaccurate rate calculations, and inaccurate water loss calculations.

The AWWA standard for small meter accuracy is 96% average accuracy and the typical recommended testing period for small meters is 8 years. In 1995, the City of Phoenix completed a study on meter accuracy over time and found that once a meter has registered more than 748,000 gallons, the accuracy begins to dip below the AWWA accuracy standard of 96%. The average monthly residenti usage in EWAZ across all districts is 10,100 gallons per month. Based on this average monthly usage, a residential meter would exceed this declining accuracy threshold between 6 and 7 years. We recommend the replacement at 12 years.

Based on this, it is expected that residential meters that have been in service for 12 years or longer are under registering water use, resulting in under billing. This error rate creates inequities when determining appropriate rates for billing and contributes to inaccurate water loss calculations. Replacing small meters at this frequency balances the timing for replacement that ensures accurate meter performance for accurate billing and water consumption measurement with the cost of the replacements. For these reasons, EWAZ requests approval of financing its small meter replacement program by changing the useful life of a small meter from 15 years to 12 years as shown in witness Sandra Murrey's Exhibit Schedule C-2.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.



BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

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

REBUTTAL TESTIMONY
OF
JEFFREY W. STUCK
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
FEBRUARY 9, 2015

REBUTTAL TESTIMONY
OF
JEFFREY W. STUCK
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
FEBRUARY 9, 2015

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EXECUTIVE SUMMARY

Jeffrey W. Stuck testifies that:

EPCOR Water Arizona Inc. ("EWAZ" or "Company") continues to support inclusion of tank maintenance expense. Based on its review of Staff's testimony and further analysis, EWAZ has adjusted its requested tank maintenance expense to $135,151 annually, a reduction of $50,700 per year. Mr. Stuck also responds to the arguments made by RUCO against tank maintenance expense—arguments that the Commission has rejected in recent Commission decisions.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND TELEPHONE NUMBER.

A. My name is Jeffrey W. Stuck. My business address is 6215 N. Cattletrack Road, Scottsdale, Arizona, and my business phone is 623-815-3125.

Q. ARE YOU THE SAME JEFFREY W. STUCK WHO PROVIDED DIRECT TESTIMONY IN THIS CASE?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. The primary purpose of my rebuttal testimony is to respond to the Residential Utility Consumer Office ("RUCO") and the Arizona Corporation Commission Staff ("ACC Staff") on the issue of the tank maintenance expense in the Paradise Valley Water District.

Q. ACC STAFF HAS ADJUSTED THE AMOUNT OF TANK MAINTENANCE EXPENSE THAT IT BELIEVES IS APPROPRIATE. DOES THE COMPANY AGREE WITH THIS ADJUSTMENT?

A. No, I believe some of the line items for which ACC Staff ascribed a unit price are too low. Specifically, ACC Staff excluded exterior coating of the Stone Canyon tank which requires recoating, ACC Staff excluded replacement of exterior ladders which are needed at all tanks, and ACC Staff estimated the cost of other items such as exterior ladder safety climbing devices, roof safety railing, vandal deterrent safety cages, and clog resistant vents to be less than they have cost on prior tank projects. Following receipt of the ACC

Staff's estimates, I consulted with a professional tank maintenance contractor and have made adjustments to the pricing list that ACC Staff provided. The prices and the effect on the Company's requested level of tank maintenance are shown on Exhibit JWS-1 attached to this testimony.

Q. WHAT IS THE EFFECT OF THE REVISED PRICING ON THE COMPANY'S ORIGINAL REQUEST FOR TANK MAINTENANCE IN THE REVISED SCHEDULES FILED OCTOBER 14, 2014?

A. The Company's request in the revised schedules filed October 14, 2014 totaled $2,601,914 for a fourteen-year period, or $185,851 annually. The total revised cost for the fourteen year period is $1,892,108 or $135,151 annually, a reduction of $50,700 per year. These revised estimates were provided to Company witness Ms. Sandy Murrey and she has included a pro forma adjustment, SM-58R, on Schedule C-2 Rebuttal.

Q. ACC STAFF ALSO RECOMMENDS THAT THE COMPANY MAKE AN ANNUAL COMPLIANCE FILING IN RELATION TO TANK MAINTENANCE. DOES THE COMPANY AGREE WITH THIS APPROACH?

A. The Company has no objection to this approach.

Q. HOW DOES THE COMPANY RESPOND TO RUCO'S CONTINUED OPPOSITION TO TANK MAINTENANCE EXPENSE IN THIS DOCKET?

A. We note that RUCO makes the same argument that they made in the Chaparral City Water Company case that resulted in Decision 74568. We continue to disagree with RUCO's position on tank maintenance and believe the approach the Company is proposing for the Paradise Valley District, which is the same tank maintenance program that has been approved in decisions 72047, 73145 and 74568, is appropriate. These approvals have allowed the Company to perform necessary maintenance of these very

critical pieces of infrastructure in a timely and systematic fashion which is serving to ensure their reliability, increase their useful life and preserve their sanitary condition. In previous testimony for the cases referenced here, I have explained that tank maintenance is a very large expense and when not specifically funded it is deferred at the expense of other required system maintenance. Providing a specific source of revenue ensures these important maintenance projects can be completed without being deferred for competing critical maintenance projects in the budget year. If this maintenance is not performed regularly, it will ultimately lead to a deterioration in the tanks, which results in system disruption, loss of water to customers, and increased cost of repairs or replacement.

Q. RUCO ALSO NOTES THAT THE COMPANY HAS NOT EXPENDED THE FULL AMOUNT OF TANK MAINTENANCE EXPENSE IN OTHER DISTRICTS IN WHICH IT HAS BEEN AUTHORIZED. HOW DOES THE COMPANY RESPOND?

A. The Company has spent the amounts summarized in Table 1 on tank maintenance in the districts identified.

Table 1. Tank Maintenance Spend by District

Tank Maintenance spend by District			
Year	Sun City	Havasu	Mohave
2011	$362,149	N/A	N/A
2012	$356,150	N/A	N/A
2013	$367,500	$74,000	$199,951
2014	$399,287	$41,891	$199,628

The figures for years 2013 and 2014 are reflected in the Company's income statement as a specific line item. Future tank maintenance expenses by district will also be reflected in this same manner in the Company's income statements. Prior to 2013, the Company did

not have a specific income statement line item and those expenditures were combined with other maintenance expenses in the Maintenance Expense account. You will note that the amount spent in each year does not exactly match the amount of revenue the Company receives for this maintenance. The plans that were submitted and approved were an annual average of the total cost of the program over the term of the program. Larger tanks cost more to maintain than smaller tanks and that is reflected in the above table. This table shows that the annual average cost over the first four years of the program for Sun City currently exceeds the annual average cost of the approved program. That rolling annual average will move up and down as it coincides with the different sizes of tanks that are maintained in a given year. This same pattern is reflected in the Havasu and Mohave Districts where smaller tanks were maintained in the first part of the program and larger tanks will be maintained in the coming years. For example, the Havasu program calls for a larger tank to be maintained in 2018 at an estimated cost of $432,000 which will exceed the annual average revenue of $76,000 from the Havasu program.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

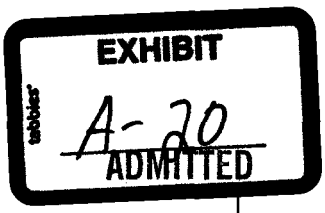
EXHIBIT JWS – 1R

EPCOR Water Arizona Inc. - Paradise Valley Water District

	Tank Name	60th Street	Clearwater Hills #1	Clearwater Hills #2	Clearwater Hills #3	Club Estates	Country Club #1	Country Club #2	Racquet Club	Stone Canyon	Total
	Tank Capacity (Gallons) and Size	200,000 38x24	102,000 27X24	100,000 27X24	20,000 13X20	30,000 16X20	500,000 60X24	360,000 50X24	102,000 27X24	90000 26X24	
No.	Item										
	Clean & Paint Exterior										
1	Epoxy/Polyurethane System	$ 24,100	$ 15,800	$ 15,000	$ 8,000	$ 7,300	$ 43,700	$ 35,000	$ 15,800	$ 15,000	$ 179,700
2	Containment (lead)	$ 40,100	$ 26,200	$ -	$ 10,200	$ 12,200	$ 72,800	$ 58,300	$ 26,200	$ -	$ 246,000
	Clean & Paint Interior										
3	3 - Coat Epoxy System	$ 92,800	$ 37,200	$ 55,800	$ 13,000	$ 24,100	$ 126,000	$ 96,700	$ 37,200	$ 35,200	$ 518,000
4	Cathodic Protection	$ 10,000	$ 9,000	$ 9,000	$ 6,000	$ 6,000	$ 12,000	$ 11,000	$ 9,000	$ 8,000	$ 80,000
5	Miscellaneous Chipping & Grinding	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
6	Seam Sealing	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	Pit Repair	$ 17,100	$ 5,800	$ 8,700	$ 2,300	$ 3,100	$ 28,000	$ 20,100	$ 5,800	$ 5,400	$ 96,300
8	Exterior Flexible Piping Connections (2)	$ 12,000	$ 6,120	$ 6,000	$ 1,200	$ 1,800	$ 30,000	$ 21,600	$ 6,120	$ 5,400	$ 90,240
9	Overflow Pipe & Install Check Valve	$ 12,000	$ 6,120	$ 6,000	$ 1,200	$ 1,800	$ 30,000	$ 21,600	$ 6,120	$ 5,400	$ 90,240
10	External Ladder Well Removal	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
11	Exterior Ladder Replacement	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 10,000	$ 90,000
12	Exterior Ladder Safe-Climbing Device	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 31,500
13	Vandal Deterent - Safety Cage Door	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 18,000
14	Additional Roof Safety Railing Installation	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 36,000
15	Existing Roof Safety Railing Modifications	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 18,000
16	Additional Shell Manhole	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 15,000	$ 135,000
17	Additional Roof Manhole	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
18	Clog Resistant Vent	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 12,000	$ 108,000
19	Contingency Items	$ 23,960	$ 13,774	$ 11,700	$ 7,150	$ 8,780	$ 37,400	$ 29,500	$ 13,774	$ 9,090	$ 155,128
20	Total cost (Each Storage)	$ 280,560	$ 168,514	$ 160,700	$ 97,550	$ 113,580	$ 428,400	$ 342,300	$ 168,514	$ 131,990	$ 1,892,108

Annual Tank Maintenance Expense (14 Year Plan)

$ 135,151



BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

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

REJOINDER TESTIMONY
OF
JEFFREY W. STUCK
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
MARCH 5, 2015

REJOINDER TESTIMONY
OF
JEFFREY W. STUCK
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
MARCH 5, 2015

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EXECUTIVE SUMMARY

Jeffrey W. Stuck responds to the surrebuttal testimony of ACC Staff and RUCO on the issue of tank maintenance expense for the Paradise Valley Water District. Mr. Stuck testifies that the Company accepts the modifications to tank maintenance expense made by ACC Staff. Mr. Stuck also responds to Mr. Michlik and explains the Company does not object to making compliance filings showing the amount spent on tank maintenance.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND TELEPHONE NUMBER.

A. My name is Jeffrey W. Stuck. My business address is 6215 N. Cattletrack Road, Scottsdale, Arizona, and my business phone is 623-815-3125.

Q. ARE YOU THE SAME JEFFREY W. STUCK WHO PROVIDED DIRECT TESTIMONY AND REBUTTAL TESTIMONY IN THIS CASE?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR REJOINDER TESTIMONY?

A. The purpose of my rejoinder testimony is to respond to the Surrebuttal Testimony of Arizona Corporation Commission ("ACC") Staff and the Residential Utility Consumer Office ("RUCO") on the issue of tank maintenance expense.

III. RESPONSE TO ACC STAFF

Q. IN HIS SURREBUTTAL TESTIMONY, MR. THOMPSON ADDRESSES CERTAIN ELEMENTS OF THE COMPANY'S TANK MAINTENANCE EXPENSE REQUEST. HOW DO YOU RESPOND?

A. Mr. Thompson created an itemized cost estimate list for the tank maintenance program in the Paradise Valley District. The Company will accept this list and the program costs that Mr. Thompson derived from these cost estimates.

IV. RESPONSE TO RUCO

Q. MR. MICHLIK CONTINUES TO RECOMMEND AGAINST TANK MAINTENANCE EXPENSE. WHAT IS THE BASIS OF HIS RECOMMENDATION?

A. Mr. Michlik relies primarily on the arguments in his direct testimony which I have already addressed in my rebuttal testimony and will not restate here. He also comments that the table provided in my rebuttal testimony is different than the table provided in response to discovery. The difference Mr. Michlik refers to relates to tank maintenance expense in the Company's Havasu District. In the response to data request number RUCO 16.01, the Company was asked to provide monthly tank maintenance expense incurred from the date the new rates went into effect until October 2014. The table I included in my rebuttal testimony included tank maintenance expenses incurred through the date of my rebuttal testimony. This reflected a tank maintenance expense in the Havasu District that was incurred on November 12, 2014. I would like to note that tank maintenance expenses do not occur in every month of the fiscal year. Tank maintenance must be performed at times of the year when the tanks can be taken out of service without causing service level interruptions to customers. This is typically in the low demand times of the year.

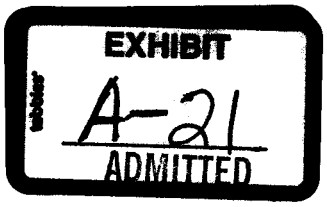
Q. MR. MICHLIK ALSO RECOMMENDS THAT THE COMPANY SHOULD TRACK THE AMOUNTS EXPENDED ON TANK MAINTENANCE AND REFUND ANY DIFFERENCE AT THE END OF THE PROGRAM. WHAT IS THE COMPANY'S POSITION?

A. The Company has no objection to tracking and filing the amounts expended on tank maintenance at the end of the program period for the Paradise Valley Water District.

The Company also does not object to refunding any difference at the end of the fourteen year program period if there is an over collection but believes that this program close out should also include a mechanism to address any under collection that may have occurred as reflected in that future filing.

Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY?

A. Yes.



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 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

DIRECT TESTIMONY OF JAKE LENDERKING

March 7, 2014

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EXECUTIVE SUMMARY

Jake Lenderking testifies that:

The Groundwater Savings Fee ("GSF") in the tariffs of the Sun City Water District and the CAP Surcharge in the tariffs of Paradise Valley Water District are annually adjusting pass-through mechanisms that allow the Company to fully recover all costs associated with CAP water. The surcharges allow for the actual cost to be recovered each year, after it has been paid. Further, Mr. Lenderking testifies that there are issues facing the Navajo Generating Station ("NGS") which will increase its generating costs. As the NGS is the primary source of power for the Central Arizona Project ("CAP"), cost increases at NGS will likely affect CAP water prices in the future. The GSF and the CAP Surcharge mechanisms will enable the recovery of changes in purchased water costs associated with CAP water without multiple rate cases sending the appropriate price signal to customers, and should be retained. Additionally, in regards to the Paradise Valley Water CAP surcharge, Mr. Lenderking also testifies that power cost savings have been carried forward since 2008 even though the SRP-Paradise Valley Water exchange that led to the savings has not been in effect since 2008 and proposes to correct it.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE NUMBER.

A. My name is Jake Lenderking. My business address is 2355 W Pinnacle Peak Rd., Suite 300, Phoenix, Arizona 85027, and my business phone is (623) 445 - 2410.

Q. IN WHAT CAPACITY AND BY WHOM ARE YOU EMPLOYED?

A. I am employed by EPCOR Water USA ("EWUS") as the Water Resources Manager.

Q. PLEASE DESCRIBE YOUR PRIMARY JOB RESPONSIBILITIES.

A. I am responsible for all water resource activities in Arizona and New Mexico including Arizona Department of Water Resources ("ADWR") annual reports, water resource planning, water resource allocation, permitting, water acquisitio and attending and participating in regional water policy forums. I also oversee al EWUS water conservation activities for EPCOR Water Arizona Inc. ("EWAZ" or "Company") and EPCOR Water New Mexico Inc. ("EWNM").

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATION.

A. I am currently working towards my Masters of Business Administration at the Thunderbird School of Global Management. Previously, I received a Bachelor of Science degree from Arizona State University in Environmental Resource Management with a concentration in Watershed Ecology. I joined EWUS (then Arizona-and New Mexico-American) in 2007. Before joining EWUS, I was employed by the City of Phoenix in its Water Conservation office, where I worked on the City's demand management plan. I also oversaw the implementation of the City's retrofit and audit program, under which City of Phoenix staff and contractors visited single-family homes, performed water audits, and replaced old

inefficient plumbing fixtures with newer, more efficient ones. Before I joined the City of Phoenix, I was employed by the Arizona Department of Water Resources ("ADWR") as part of its Phoenix Active Management Area ("AMA") section. At the time I left ADWR, I was responsible for the regulation and permitting of all recharge activities in the Phoenix AMA.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes.

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

A. I will testify in support of the EWAZ's request to retain the Groundwater Saving Fee ("GSF") for the Sun City Water District and the CAP Surcharge for the Paradise Valley Water District.

II. RETENTION OF THE SUN CITY GSF MECHANISM

A. Background – Water Supplies

Q. PLEASE DESCRIBE THE WATER SUPPLIES AVAILABLE TO THE COMPANY FOR ITS SUN CITY WATER DISTRICT?

A. The Company has 26 wells producing water for this district. These wells are all located within the district's service territory and provide water for service in this district. EWAZ also has a CAP allocation of 4,189 acre-feet for the Sun City Water District. The Company has approximately 10.3 million gallons of storage.

Q. HOW DOES THE COMPANY USE WATER FROM THESE SOURCES FOR ITS CUSTOMERS?

A. The wells are used to serve the residential and commercial customers in this district. The CAP water for the Sun City Water District is used to recharge the aquifer from which the district's wells pump water. As the Commission recognized several years ago, demand from customers in the Sun City Water

District is depleting the aquifer, causing land subsidence and other environmental damage.[1]

Q. HOW DOES THE COMPANY RECOVER THE COST OF THE CAP WATER IT PURCHASES EACH YEAR?

A. All of the costs to purchase CAP water in the Sun City Water District are recovered via an annual surcharge pursuant to the Arizona Corporation Commission ("Commission") approved GSF mechanism.

B. Background - GSF

Q. PLEASE DESCRIBE THE GSF MECHANISM.

A. The GSF mechanism was approved by the Commission to allow for the complete recovery of CAP-related expenses so that the Company could continue to retain its CAP allocation and recover the associated expenses. The GSF is a separate charg on customers' bills.

Q. HOW DOES THE GSF MECHANISM WORK?

A. The GSF mechanism is designed to include all M&I capital and delivery costs associated with using the CAP allocation offset by any storage credits. In January of each year, the Company files for an adjustment to the GSF to reflect changes in purchased CAP water costs. This filing includes a reconciliation of revenue collected from customers via the GSF for the past year with purchased CAP water expenses for the same period as well as projections of the upcoming year's expenses and revenues. These calculations determine the new GSF, which is implemented in March. The GSF may increase or decrease due to the reconciliation of the past year's revenues, sales volumes and expenses. The end

[1] Decision No. 65655 (February 20, 2003) at 2.

result is complete recovery of all associated purchased CAP water expenses and credits, no more and no less.

Q. IN DECISION NO. 72046 (DECEMBER 10, 2010), WHAT WAS THE COMMISSION'S FINDING PERTAINING TO THE GSF MECHANISM?

A. The decision adopted Staff's recommendation because Staff believed that "the Company should include the CAP capital and delivery charges and the offsetting replenishment credits in its costs included in its base rates, thereby eliminating the need for the GSF surcharge in the future." Therefore, we were ordered to eliminate the GSF in the next rate filing, which is this one.

Q. BUT ISN'T ELIMINATION OF THE GSF SOMEWHAT INCONSISTENT WITH THE COMMISSION'S RECENT DECISIONS AND POLICIES INTENDED TO REDUCE REGULATORY LAG AND IMPLEMENT RATE GRADUALISM IN THE RECOVERY OF COSTS?

A. Yes. Two examples are the Commission's recent decisions adopting System Improvement Benefits (SIB) Mechanisms for Arizona Water Company and Global Water, and the recent ACC Staff recommendation for the authorization of a Sustainable Water Surcharge in Chaparral City Water Company's general rate case application, Docket No. W-2113A-13-0118, the latter being very similar in nature to the GSF discussed herein.[2] These recent actions are intended to reduce regulatory lag and implement rate gradualism in the recovery of costs. As a result, EWAZ respectfully asks that the Commission reconsider this directive in this proceeding.

[2] *Arizona Water Company*, Decision No. 73938 (June 27, 2013); *Global Water*, Decision No. 74364 (February 26, 2014); Direct Testimony of Gerald Becker in Docket No. W-02113A-13-0118 (Staff does not oppose Chaparral City Water Company's request for a purchased water surcharge referred in that case as a Sustainable Water Surcharge).

C. Request to Retain the GSF

Q. WHY DO YOU BELIEVE THE COMPANY WAS ORDERED TO DISCONTINUE THE GSF?

A. In several years preceding the order, the Company did not file adjustments to the GSF surcharge mechanism on a timely basis. I believe that this was the root cause for Staff's recommendation to eliminate the GSF Surcharge in a subsequent rate case.

Q. SINCE THE ISSUANCE OF DECISION NO. 72046, HAS THE COMPANY MADE TIMELY GSF FILINGS?

A. Yes. The Company has improved its internal process for calculating and filing the annual adjustment to the surcharge each year. We have made the filings on time each year since Decision No. 72046.

Q. WHY IS THE COMPANY ASKING TO RETAIN THE GSF MECHANISM?

A. The GSF mechanism is an efficient mechanism that allows for the timely recovery of CAP-related expenses that are not within the Company's control. The GSF also provides customers with the important pricing signals associated with this source of water. In addition, there are several uncertainties that exist today that were not contingencies at the time of the Commission's issuance of Decision No. 72046, such as the Navajo Generating Station and the impact its ultimate resolution will have on CAP water prices.

Q. WHY IS IT IMPORTANT THAT EWAZ RECOVER ITS CAP COSTS ON A TIMELY BASIS?

A. The customers need this resource and EWAZ needs to be able to pay the associated invoices when they are due. However, the costs of CAP water are considerable, they can also fluctuate, and these costs are destined to increase significantly and more regularly in the near future. The current surcharge mechanism provides fo

recovery of the costs associated with retaining the allocations of CAP water for the Sun City Water District's customers. In addition, the delivery costs associated with the water that is recharged into the aquifer are also allowed recovery under the mechanism. The current surcharge mechanism computes the costs of water for the upcoming period and recovers those expenses from customers as the costs are incurred. Any credits received for the recharge (i.e. storage credits) are flowed through the mechanism as they are received. By charging customers in the period that the costs are incurred, the appropriate pricing signals are given to the customers while providing recovery of costs incurred by the Company without a drain on earnings.

Q. WHY CAN'T THE COMPANY JUST RECOVER THESE SAME COSTS THROUGH BASE RATES?

A. Base rates are able to reflect costs at a point in time and CAP water charges change every year. If CAP-related expenses are included as an expense in base rates, the Company would under-recover the purchased water costs every year that CAP rates are greater than the rates included in base rates. Any under-recovery of this purchased CAP water expense will restrain EWAZ's ability to earn its authorized return on its invested capital. The drain on earnings may also lead to more frequent rate applications in order to recover those rising CAP-related expenses, in turn resulting in higher rate increases, rather than gradual annual increases under the GSF surcharge that track the increases that the Central Arizona Water Conservation District ("CAWCD") imposes each year.

Q. SO CAWCD CHANGES THE COST OF CAP WATER EVERY YEAR?

A. Yes, each year, CAWCD revises the rates it charges for CAP water so that it covers its operating expenses. This annual change can and has been large. Tables 1 and 2

display the historical and projected cost increases, respectively, as published by CAWCD and projected by the Company.

Table 1 Historical CAP Prices in Dollars Per Acre Foot

Year	2009	2010	2011	2012	2013
Capital Charge	$ 18	$ 15	$ 15	$ 15	$ 15
Water Delivery Charge	$ 108	$ 118	$ 122	$ 122	$ 129
Total	$ 126	$ 133	$ 137	$ 137	$144
Percentage Change		5.56%	3.01%	0.00%	5.11%

Table 2 Projected CAP Prices in Dollars Per Acre Foot

Year	2014	2015	2016	2017	2018
Capital Charge	$ 20	$ 21			
Water Delivery Charge	$ 146	$ 157			
Total	$ 166	$ 178	$189[3]	$ 200	$ 212
Percentage Change	15.28%	7.23%	6.03%	6.03%	6.03%

Q. HAS THE COMPANY QUANTIFIED THIS POTENTIAL UNDER-RECOVERY IF THE GSF MECHANISM IS DISCONTINUED?

A. Yes. CAP expense for the Sun City Water District is $678,618 using the 2015 projected prices published by CAWCD. Using this expense amount as the amount that would be in base rates and the historical average cost increase in CAP water pricing of 6.03 percent, $44,962 will be unrecovered in CAP expenses by 2016. Each year this unrecovered CAP expense grows. As Table 3 below displays, this could cost the Company over $700,000 by 2020.

[3] CAWCD discontinued the practice of providing 4 years of projected rates and today only projects 1 year. The most recent 10-year (2006 – 2015) average price change of 6.03 percent was used to project future CAP prices. CAP prices for 2006 – 2015 are provided in Exhibit JCL -1.

Table 3 Projected Future Losses Associated with CAP Water for the Sun City Water District

Year	2016	2017	2018	2019	2020
2015 Projected Expense[4]	678,618	678,618	678,618	678,618	678,618
Projected Actual Expense[5]	723,580	771,253	821,801	875,397	932,225
Unrecovered Amount	44,962	92,635	143,183	196,779	253,607
Cumulative Unrecovered Amount	44,962	137,597	280,780	477,559	731,166

Q. IS THE HISTORICAL AVERAGE PRICE INCREASE IN CAP WATER AN ACCURATE PREDICTOR OF FUTURE CAP WATER PRICES?

A. No, CAP water prices are expected to increase at an even greater rate in the future, as I discuss further below. For now, it is clear that we face many uncertainties with CAWCD that can lead to significantly larger price increases in the future.

Q. HOW DOES THIS EXPENSE INCREASE FIT IN WITH OTHER EXPENSE INCREASES THAT THE COMPANY EXPERIENCES?

A. In the last rate case, the 2008 adjusted test year authorized operation and maintenance expense excluding the cost of purchased water was $6,582,548. Today, the July 1, 2012 – June 30, 2013 adjusted test year operation and maintenance expense is $7,048,944, representing a 7 percent increase. From 2008 to today, CAP water prices increased 48.2 percent.[6] CAP water increases have significantly outpaced other operation and maintenance expense increases.

[4] Using the projected 2015 expense including the following: (4,189 acre feet of CAP water times the CAP published rate for 2015) minus (4,189 acre feet of CAP water times $16 per care foot credit from Maricopa Water District) = $678,618.

[5] The projected annual increase in CAP water prices uses the ten-year annual average of 6.03%.

[6] Exhibit JCL-1 contains historic CAP prices.

Q. HOW DOES THE GSF MECHANISM BENEFIT THE CUSTOMERS?

A. It allows for the exact recovery of this known and essential expense and when faced with CAP water price increases, it allows a means to recover the cost increases without having to file rate cases and incur the costs associated with rate filings. Since the surcharge is intended to match the associated expense and changes in number of customers and usage are also factors in the surcharge calculation, customers will also benefit from any decreases in CAP prices that may occur. The surcharge also allows for a proper water policy to continue to be implemented.

Q. WHAT WILL HAPPEN IF THE COMMISSION DOES NOT ALLOW THE GSF MECHANISM TO CONTINUE?

A. Two things will occur. The Company will begin to lose money on the purchase c CAP water and may be forced to come in for rate increases sooner than otherwise would be necessary. Table 3 above shows the potential losses on purchased water expense that the Company will face in its Sun City Water District.

Q. PREVIOUSLY YOU MENTIONED THAT THERE ARE UNCERTAINTIES FACING CAWCD THAT MAY LEAD TO ADDITIONAL CAP WATER PRICE INCREASES. PLEASE DISCUSS THESE UNCERTAINTIES.

A. There is a very strong possibility that CAP water rates will rise faster than the published rates due to several uncertainties. First, CAWCD has already been faced with rapidly increasing costs and shortfalls in revenue and has begun to deplete its cash reserves. In March 2013, CAWCD held a special Board meeting and went over their cost increases in great detail, identifying revenue shortfalls, and options to remedy the situation. Raising the 2014 CAP rates was one clear and likely option for the Board to address the issue. Another option that CAWCD Board members and staff considered is reconciliation, a practice whereby CAWCD

reconciles its costs at the end of the year and adjusts the per acre foot price for the water that was already purchased.

Q. DOES CAWCD HAVE AUTHORITY TO DO THIS?

A. I believe so. Reconciliation has always been available to CACWD and is delineated in all of its CAP Subcontracts for water. At the time of the CAWCD Board discussions in March 2013, the issues at CAWCD were of a significant enough nature that there were discussions of an $8.00 per acre-foot increase on the 2012 and 2013 Water Delivery Charge.

Q. DID CAWCD RECONCILE ITS RATES FOR 2012 AND 2013?

A. No. After hearing from the community, the CAWCD board ultimately voted against using the reconciliation procedure for 2012 and 2013, and instead elected to address their financial strain in other ways such as increasing the 2014 rate. The CAWCD board did note that in the future it would exercise its authority to reconcile rates as necessary.

Q. THANK YOU. PLEASE CONTINUE WITH YOUR DISCUSSION OF THE ISSUES CAWCD FACES THAT MAY CAUSE RAPID COST INCREASES.

A. Second, CAWCD obtains virtually all of its electricity from the Navajo Generating Station ("NGS") located in Northern Arizona.[7] NGS is currently faced with an EPA rulemaking that would require its owners to make substantial changes or retrofits to comply with the rulemaking.[8] In fact, these changes are so substantial (over $1 billion in costs) that the NGS owners have discussed the possible closure of the plant. If NGS is actually shut down, CAWCD will have to purchase more expensive electricity on the market. If the changes are made at NGS, the increased

[7] According to the CAP website, NGS provides more than 90% of the power CAP needs to provide water. *See* http://www.cap-az.com/index.php/public/navajo-generating-station.

[8] EPA published its proposed rule on February 5, 2013 at 78 C.F.R. 24.

costs will translate into higher electricity prices ultimately increasing CAP prices. Additionally, the EPA is considering other alternatives relating to NGS in the rulemaking, including a proposal to close down one unit at NGS but keeping the other two units open subject to additional pollution controls. Needless to say, if any of these alternatives occur, it will cause significant cost increases to CAWCD that will in turn raise its CAP water rates.

Q. CAN THE COMPANY ABSORB THESE ADDITIONAL EXPENSES SHOULD THEY OCCUR?

A. No, at least not without sacrificing the opportunity to earn its authorized return. This is exactly why surcharges exist or should be created - to allow the Company full recovery of a vital expense for renewable water resources where costs are significant, unpredictable and uncertain.

Q. ARE YOU AWARE OF ANY COMPELLING REASONS TO ELIMINATE THE GSF UNDER THE CURRENT CIRCUMSTANCES?

A. Honestly, no. We cannot think of any good reason to eliminate the GSF at this time. At the risk of repeating myself, eliminating the GSF will almost certainly result in EWAZ under recovering costs associated with using and retaining its CAP allocation, in turn jeopardizing the Commission's policy of encouraging and incentivizing use of renewable water sources and leading to more frequent rate cases, undermining the policy of rate gradualism, and depriving EWAZ of a reasonable opportunity to earn its authorized return.

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III. RETENTION OF THE PARADISE VALLEY CAP SURCHARGE MECHANISM

A. Background – Water Supplies

Q. PLEASE DESCRIBE THE WATER SUPPLIES AVAILABLE TO THE COMPANY FOR ITS PARADISE VALLEY WATER DISTRICT.

A. The Company has six wells located within and producing water for this district. EWAZ also has a CAP allocation in the amount of 3,231 acre-feet for this water district. The Company has approximately 4.5 million gallons of storage.

Q. HOW DOES THE COMPANY USE WATER FROM THESE SOURCES FOR ITS CUSTOMERS?

A. The wells are used to serve the residential and commercial customers in this district. The CAP water for the Paradise Valley District is used to recharge the aquifer.

Q. HOW DOES THE COMPANY RECOVER THE COST OF THE CAP WATER IT PURCHASES EACH YEAR?

A. CAP water charges are recovered through the Commission-authorized CAP Surcharge.

B. Background – CAP Surcharge

Q. PLEASE DESCRIBE THE CAP SURCHARGE MECHANISM.

A. The CAP surcharge mechanism was approved to allow for the complete recovery of CAP-related expenses so that the Company could retain its CAP allocation for the Paradise Valley Water District. The CAP surcharge is a separate charge on customers' bills and is very similar to the Sun City Water District's GSF surcharge described above.

More specifically, the CAP surcharge mechanism is designed to include all M&I capital and delivery costs associated with using the CAP allocation offset by

any storage credits. In January of each year, the Company files for an adjustment to the surcharge to charge its customers. This annual filing includes a reconciliation of past revenue collected via the surcharge with past CAP expense as well as projections of the upcoming year's expenses and revenues. These calculations determine the new surcharge to be implemented in March of that year. Due to the reconciliation of the past year's revenues, sales volumes and expenses, the surcharge may increase or decrease. The end result is complete recovery of all associated purchased CAP water expenses and credits, no more and no less, with appropriate price signals being sent to customers.

C. Request to Retain the CAP Surcharge

Q. WHY DOES THE COMPANY NEED TO SEEK TO RETAIN THE CAP SURCHARGE MECHANISM FOR PARADISE VALLEY WATER DISTRICT IN THIS CASE?

A. Because in Decision No. 71841, dated August 10, 2010, ACC Staff recommended "that, in its next rate application filed for the Paradise Valley Water District, the Company should include the CAP capital and delivery charges in its costs in base rates, thereby eliminating the CAP surcharge." The Commission, on page 5 of that decision, ordered that the Company "shall include the CAP capital and delivery charges in its costs in base rates and eliminate the CAP surcharge in the next rate increase application filed for its Paradise Valley District."

Q. WOULD ELIMINATION OF THE CAP SURCHARGE BE CONSISTENT WITH THE COMMISSION'S RECENT DECISIONS AND POLICIES?

A. No, as with the GSF mechanism discussed above, elimination of the CAP surcharge for this district would be inconsistent with the Commission's recent SIB decisions, and a recent Staff recommendation for the authorization of a Sustainable Water Surcharge for Chaparral City Water Company. As discussed above, the

recent actions apply equally to the CAP Surcharge for the Paradise Valley Water District.

Q. WHY DO YOU BELIEVE THE COMPANY WAS ORDERED TO DISCONTINUE THE CAP SURCHARGE?

A. As with the GSF, the Company had not filed adjustments to the CAP surcharge mechanism on a timely basis. However, as is also the case with the GSF, EWAZ has improved its process for calculating and filing the annual adjustment to the surcharge, and we have made the filings on time each year since Decision No. 71841.

Q. ARE THE REASONS FOR RETAINING THE CAP SURCHARGE SIMILAR TO THE REASONS FOR RETAINING THE GSF FOR THE SUN CITY WATER DISTRICT YOU DISCUSSED ABOVE?

A. Yes. The CAP surcharge is also an efficient mechanism to allow timely recovery of critical and potentially volatile operating expenses that are not within the Company's control. Like the GSF, the current surcharge mechanism provides for recovery of the costs associated with retaining the allocation of CAP water for the Paradise Valley Water District customers. The current surcharge mechanism computes the costs of water for the upcoming period and recovers those expenses from customers as the costs are incurred. Any credits received for the recharge (i.e. storage credits) are flowed through the mechanism as they are received. By charging customers in the period that the costs are incurred, it sends the appropriate pricing signals to customers while providing recovery of costs incurred by the Company without any drain on earnings.

Finally, as with the GSF, recovery of CAP costs through base rates is an ineffective solution because the costs of CAP water changes every year, as I discussed in detail above in this testimony. The CAP surcharge allows the

Company to continue to pay for CAP-related expenses while recovering the year-over-year increases/decreases in CAP unit prices. If CAP-related expenses are included as an expense in base rates, the Company would almost certainly under recover some of the dollars expended to purchase CAP water due to the annual increases in costs. The result severely impedes the Company's opportunity to earn its authorized return on its invested capital.

Q. HAS THE COMPANY CALCULATED THE POTENTIAL FOR UNDER-RECOVERY IF THE CAP SURCHARGE IS DISCONTINUED?

A. Yes. Projected 2015 CAP expense is $523,422 using the 2015 projected prices published by CAWCD. Using this projected 2015 expense of $523,422 as the basis and the historical average cost increase in CAP water prices of 6.03 percent, $34,679 will be unrecovered in CAP expenses by 2016. Each year this unrecovere CAP expense grows. As Table 4 below displays, this grows to over $500,000 by 2020 for the Paradise Valley Water District.

Table 4 Projected Future Losses Associated with CAP Water for the Paradise Valley Water District

Year	2016	2017	2018	2019	2020
Projected 2015 Expense[9]	523,422	523,422	523,422	523,422	523,422
Projected Actual Expense[10]	558,101	594,872	633,860	675,199	719,030
Unrecovered Amount	34,679	71,450	110,438	151,777	195,608
Cumulative Unrecovered Amount	34,679	106,130	216,567	368,344	563,953

[9] The 2015 projected expense includes the following: (3,231 acre feet of CAP water times the CAP published rate for 2015) minus (3,231 acre feet of CAP water times $16 per acre foot credit from Maricopa Water District) = $523,422.

[10] The projected annual increase in CAP water prices uses the ten-year annual average of 6.03%.

Q. HOW DOES THIS EXPENSE INCREASE FIT IN WITH OTHER EXPENSE INCREASES THAT THE COMPANY EXPERIENCES?

A. In the last rate case, the 2006 adjusted test year authorized operation and maintenance expense was $3,578,094. Today, the July 1, 2012 – June 30, 2013 adjusted test year operation and maintenance expense is $4,318,618, representing a 20.7 percent increase. From 2006 to today, CAP water prices increased 56.6 percent. CAP water increases have significantly outpaced other operation and maintenance expense increases. Therefore, for the same reasons we need to retain the GSF, EWAZ should be allowed to retain its CAP Surcharge for the Paradise Valley Water District.

D. Correction of the Power Cost Savings Component of the CAP Surcharge

Q. PLEASE EXPLAIN THE POWER COST SAVINGS COMPONENT OF THE CURRENT CAP SURCHARGE CALCULATION.

A. The current CAP Surcharge calculation includes an adjustment that reduces purchased water charges by $179,225, and has been referred to as Power Cost Savings. The Power Cost Savings relate to pumping power expenses that were avoided, i.e. not incurred, as a result of the CAP water exchange between EWAZ's predecessor and Salt River Project ("SRP"). This exchange of water has not occurred since 2008. The Company proposed to eliminate the Power Cost Savings in its 2009 annual surcharge filing, but this request was denied. However, since the exchange is not occurring, and the power costs included in this rate application are based on the current level of power expense, the Power Cost Savings should be eliminated from the calculation of the purchased CAP water surcharge after a decision is issued in this case.

Q. WHAT HAS THE IMPACT OF INCLUDING THIS POWER COST SAVINGS BEEN TO THE COMPANY?

A. The Company has been reducing its recoverable CAP water expenses by $179,225 each year since January 2008 to include power cost savings in its CAP surcharge reconciliations even though the CAP water exchange with SRP that gave rise to the power cost savings was no longer occurring. Over the six years, this totals $1,075,350. This is the amount of CAP expense that the Company did not recover due to the inclusion of the Power Cost Savings adjustment in the calculation of the CAP surcharge since 2008.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

Exhibit JCL -1

Approved: June 22, 2006

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = $/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2006	Firm 2007	Firm 2008	Advisory 2009	2010	2011	2012
Municipal and Industrial							
Long Term Subcontract (C+D) [1]	$ 82	$ 87	$ 95	$ 105	$ 113	$ 118	$ 123
Excess Water (A+C+D)	106	108	116	126	118	123	128
AWBA/CAGRD Recharge (0.1xC+E+H) [2]	82	61	51	TBD	TBD	TBD	TBD
Incentive Recharge (0.1xC+E+H) [2]	82	61	51	TBD	TBD	TBD	TBD
AWBA Interstate Recharge (A+C+F+G) [3]	174	210	217	233	217	154	162
Federal (C+D)	$ 82	$ 87	$ 95	$ 105	$ 113	$ 118	$ 123
Agricultural							
Settlement Pool (D) [4]	$ 33	$ 35	TBD	TBD	TBD	TBD	TBD
Long Term Subcontract (B+C+D) [5]	84	89	97	107	115	120	125
Miscellaneous (E+$5/af)	$ 77	$ 56	$ 46	$ 54	$ 65	$ 75	$ 71

RATE COMPONENTS

Units = $/acre-foot

	2006	Firm 2007	Firm 2008	Advisory 2009	2010	2011	2012
Capital Charges							
(A) Municipal and Industrial - Long Term Subcontract [6]	$ 24	$ 21	$ 21	$ 21	$ 5	$ 5	$ 5
(B) Agricultural - Long Term Subcontract [5]	2	2	2	2	2	2	2
Delivery Charges							
(C) Fixed OM&R [7]	$ 49	$ 52	$ 55	$ 62	$ 67	$ 71	$ 77
(D) Pumping Energy Rate 1 [8]	33	35	40	43	46	47	46
(E) Pumping Energy Rate 2 [9]	72	51	41	49	60	70	66
(F) Pumping Energy Rate 3 [10]	80	112	115	122	117	51	50
(G) Property Tax Equivalency [11]	21	25	26	28	28	27	30
(H) Lost Federal Revenues [12]	5	5	5	TBD	TBD	TBD	TBD

Qualifications for Various Classes of Water Service

Long-Term Municipal and Industrial (M&I) Subcontract: M&I subcontractors.
Excess: M&I users who are not subcontractors and the CAGRD; rate is for "as available" water.
AWBA/CAGRD and M&I Incentive Underground Water Storage: The Arizona Water Banking Authority (available for scheduling after all other schedules have been filled) and M&I subcontractors and other Arizona entities who have valid Arizona Department of Water Resources permits and accrue long-term recharge/storage credits from this activity.

Approved: June 22, 2006

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

DIRECT UNDERGROUND WATER STORAGE
Units = $/acre-foot

	2006	Firm 2007	Firm 2008	Advisory 2009	2010	2011	2012
Underground WaterStorage O&M [13]							
Phoenix AMA	$ 8	$ 8	$ 8	$ 9	$ 10	$ 11	$ 13
Tucson AMA	12	13	15	17	19	21	23
Underground Water Storage Capital Charge [14]							
Phoenix AMA	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15
Tucson AMA	9	9	9	9	9	9	9

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

	Historic 2005/06	Firm 2006/07	Firm 2007/08	Advisory 2008/09	2009/10	2010/11	2011/12
Phoenix Active Management Area							
Water & Replenishment Component [15]	$ 101	$ 107	$ 112	$ 120	$ 122	$ 128	$ 134
Administrative Component [16]	40	30	28	27	27	27	27
Infrastructure & Water Rights Component [17]	40	77	79	82	84	87	89
Replenishment Reserve Charge [18]	31	22	21	22	28	37	39
Total Assessment Rate ($/AF)	$ 212	$ 236	$ 240	$ 251	$ 261	$ 279	$ 289
Pinal Active Management Area							
Water & Replenishment Component [15]	$ 81	$ 79	$ 87	$ 97	$ 89	$ 94	$ 100
Administrative Component [16]	40	30	28	27	27	27	27
Infrastructure & Water Rights Component [17]	40	77	79	82	84	87	89
Replenishment Reserve Charge [18]	31	24	25	24	30	34	33
Total Assessment Rate ($/AF)	$ 192	$ 210	$ 219	$ 230	$ 230	$ 242	$ 249
Tucson Active Management Area							
Water & Replenishment Component [15]	$ 115	$ 123	$ 133	$ 145	$ 139	$ 146	$ 153
Administrative Component [16]	40	30	28	27	27	27	27
Infrastructure & Water Rights Component [17]	40	77	79	82	84	87	89
Replenishment Reserve Charge [18]	31	21	25	28	35	42	40
Total Assessment Rate ($/AF)	$ 226	$ 251	$ 265	$ 282	$ 285	$ 302	$ 309
Contract Replenishment Tax - Scottsdale [19]							
Cost of Water	$ 107	$ 106	$ 108	$ 116	$ 126	$ 118	$ 123
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component [16]	40	30	28	27	27	27	27
Total Tax Rate ($/AF)	$ 147	$ 136	$ 136	$ 143	$ 153	$ 145	$ 150

ENROLLMENT & ACTIVATION FEES
Units = $/Housing Unit

Enrollment Fee [20]	$ 20	$ 23	$ 23	$ 24	$ 24	$ 25	$ 26
Activation Fee [20]	60	62	63	66	67	70	71

Approved: June 22, 2006

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

NOTES:

1 Does not include the Capital Charge.

2 Rate is 10% of the Fixed OM&R Component plus the Pumping Energy Rate 2 component plus a component to compensate for loss of revenue from Federal deliveries resulting from adding AWBA, M&I/CAGRD Incentive Underground Water Storage, and SRP bring your own power deliveries (derived by formula). Rules regarding the eligibility for and use of M&I Incentive Underground Water Storage are shown on page 1.

3 Rate is the Fixed OM&R component plus the Pumping Energy Rate 3 component plus the M&I Capital Charge plus an equivalency tax component.

4 Rate is the Pumping Energy Rate 1 component.

5 Ag capital charge is part of the delivery rate.

6 Capital charge is paid on full allocation regardless of amount delivered; not included in delivery rates.

7 Fixed OM&R costs divided by projected total water volumes plus a component to fund capital replacements. This amount is collected on all ordered water whether delivered or not.

8 Applies to all water deliveries except AWBA and M&I/CAGRD Incentive Underground Water Storage, AWBA Interstate and SRP bring-your-own power acre-feet. Net pumping energy costs divided by projected deliveries. This amount is collected only for water actually delivered.

9 Applies to AWBA and M&I/CAGRD Incentive Underground Water Storage, and Miscellaneous deliveries. Rate is the average of the prior 3 years actual or forecasted rate. This amount is collected only for water actually delivered.

10 Rate is based upon the estimated cost of purchasing CAP's highest cost energy (above threshold energy until 2011).

11 The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2007 Rate, the tax equivalency is the levy for the 2005-2006 tax year divided by the average water deliveries for 2003, 2004 and 2005). The Advisory Rates are estimates.

12 A component to compensate for loss of revenues from Federal deliveries resulting from adding AWBA and M&I/CAGRD incentive and SRP bring your own power deliveries (derived by formula).

13 Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.

14 Underground Water Storage capital charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGRD, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.

15 The Water & Replenishment Component includes the projected cost to purchase and recharge water. For 2006/2007, the water supply is assumed to be Excess CAP water at the full Excess CAP water rate. For the 2007/2008 advisory rate (based on purchases in 2008), it is assumed that CAGRD will use reclaimed effluent as part of its water supply to meet obligations. The total volume to be purchased and replenished includes the replenishment obligation and a sufficient volume to offset losses incurred during the replenishment process (1%). For the Phoenix and Tucson Active Management Areas (AMAs), replenishment will be accomplished at direct and indirect underground water storage facilities. For the Pinal AMA, replenishment will be accomplished at groundwater savings facilities.

16 The Administrative Component was established so that repayment of all CAWCD advances would occur by the end of 2007. $2/AF has been added to the Administrative component to help fund the CAGRD conservation program for years 2006/2007 through 2011/2012.

17 The Infrastructure & Water Rights Component was established to provide funds to (1) purchase long-term rights to water as opportunities arise, and (2) construct additional infrastructure facilities as the need arises in the future.

18 The Replenishment Reserve Charge is based on a program to establish a replenishment reserve of long-term storage credits as required by statutes. Excess CAP water will be purchased at the CAP Incentive Recharge rate and stored at a combination of direct recharge facilities and groundwater savings facilities in the Phoenix and Tucson AMAs. In the Pinal AMA, credits will be purchased from CAP at the incentive recharge rate in accordance with Board policy adopted on October 6, 2005. This charge will be levied as provided in ARS Section 48-3774.01.

19 The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater Between CAWCD and Scottsdale.

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

20 The Enrollment Fee and Activation Fee reflect the fees established pursuant to the CAGRD Enrollment Fee and Activation Fee Policy adopted by the Board on May 6, 2004. $2 per housing unit has been added to the enrollment fee starting with the 2006/2007 period to help fund CAGRD's conservation program.

Approved: June 22, 2006
Revised: August 2, 2007

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

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RATE COMPONENTS

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(B) Agricultural - Long Term Subcontract [5]	2	2	2	2	2	2	2
Delivery Charges							
(C) Fixed OM&R [7]	$ 49	$ 52	$ 55	$ 62	$ 67	$ 71	$ 77
(D) Pumping Energy Rate 1 [8]	33	35	36	43	46	47	46
(E) Pumping Energy Rate 2 [9]	72	51	41	49	60	70	66
(F) Pumping Energy Rate 3 [10]	80	112	115	122	117	51	50
(G) Property Tax Equivalency [11]	21	25	26	28	28	27	30
(H) Lost Federal Revenues [12]	5	5	5	TBD	TBD	TBD	TBD

Qualifications for Various Classes of Water Service

Long-Term Municipal and Industrial (M&I) Subcontract: M&I subcontractors.
Excess: M&I users who are not subcontractors and the CAGRD; rate is for "as available" water.
AWBA/CAGRD and M&I Incentive Underground Water Storage: The Arizona Water Banking Authority (available for scheduling after all other schedules have been filled) and M&I subcontractors and other Arizona entities who have valid Arizona Department of Water Resources permits and accrue long-term recharge/storage credits from this activity.

Approved: June 22, 2006
Revised: August 2, 2007

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

DIRECT UNDERGROUND WATER STORAGE
Units = $/acre-foot

	2006	Firm 2007	Firm 2008	Advisory 2009	2010	2011	2012
Underground WaterStorage O&M [13]							
Phoenix AMA	$ 8	$ 8	$ 8	$ 9	$ 10	$ 11	$ 13
Tucson AMA	12	13	15	17	19	21	23
Underground Water Storage Capital Charge [14]							
Phoenix AMA	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15
Tucson AMA	9	9	9	9	9	9	9

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

	Historic 2005/06	Firm 2006/07	Firm 2007/08	Advisory 2008/09	2009/10	2010/11	2011/12
Phoenix Active Management Area							
Water & Replenishment Component [15]	$ 101	$ 107	$ 112	$ 120	$ 122	$ 128	$ 134
Administrative Component [16]	40	30	28	27	27	27	27
Infrastructure & Water Rights Component [17]	40	77	79	82	84	87	89
Replenishment Reserve Charge [18]	31	22	21	22	28	37	39
Total Assessment Rate ($/AF)	$ 212	$ 236	$ 240	$ 251	$ 261	$ 279	$ 289
Pinal Active Management Area							
Water & Replenishment Component [15]	$ 81	$ 79	$ 87	$ 97	$ 89	$ 94	$ 100
Administrative Component [16]	40	30	28	27	27	27	27
Infrastructure & Water Rights Component [17]	40	77	79	82	84	87	89
Replenishment Reserve Charge [18]	31	24	25	24	30	34	33
Total Assessment Rate ($/AF)	$ 192	$ 210	$ 219	$ 230	$ 230	$ 242	$ 249
Tucson Active Management Area							
Water & Replenishment Component [15]	$ 115	$ 123	$ 133	$ 145	$ 139	$ 146	$ 153
Administrative Component [16]	40	30	28	27	27	27	27
Infrastructure & Water Rights Component [17]	40	77	79	82	84	87	89
Replenishment Reserve Charge [18]	31	21	25	28	35	42	40
Total Assessment Rate ($/AF)	$ 226	$ 251	$ 265	$ 282	$ 285	$ 302	$ 309
Contract Replenishment Tax - Scottsdale [19]							
Cost of Water	$ 107	$ 106	$ 108	$ 116	$ 126	$ 118	$ 123
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component [16]	40	30	28	27	27	27	27
Total Tax Rate ($/AF)	$ 147	$ 136	$ 136	$ 143	$ 153	$ 145	$ 150

ENROLLMENT & ACTIVATION FEES
Units = $/Housing Unit

Enrollment Fee [20]	$ 20	$ 23	$ 23	$ 24	$ 24	$ 25	$ 26
Activation Fee [20]	60	62	63	66	67	70	71

Approved: June 22, 2006
Revised: August 2, 2007

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

NOTES:

1 Does not include the Capital Charge.

2 Rate is 10% of the Fixed OM&R Component plus the Pumping Energy Rate 2 component plus a component to compensate for loss of revenue from Federal deliveries resulting from adding AWBA, M&I/CAGRD Incentive Underground Water Storage, and SRP bring your own power deliveries (derived by formula). Rules regarding the eligibility for and use of M&I Incentive Underground Water Storage are shown on page 1.

3 Rate is the Fixed OM&R component plus the Pumping Energy Rate 3 component plus the M&I Capital Charge plus an equivalency tax component.

4 Rate is the Pumping Energy Rate 1 component.

5 Ag capital charge is part of the delivery rate.

6 Capital charge is paid on full allocation regardless of amount delivered; not included in delivery rates.

7 Fixed OM&R costs divided by projected total water volumes plus a component to fund capital replacements. This amount is collected on all ordered water whether delivered or not.

8 Applies to all water deliveries except AWBA and M&I/CAGRD Incentive Underground Water Storage, AWBA Interstate and SRP bring-your-own power acre-feet. Net pumping energy costs divided by projected deliveries. This amount is collected only for water actually delivered.

9 Applies to AWBA and M&I/CAGRD Incentive Underground Water Storage, and Miscellaneous deliveries. Rate is the average of the prior 3 years actual or forecasted rate. This amount is collected only for water actually delivered.

10 Rate is based upon the estimated cost of purchasing CAP's highest cost energy (above threshold energy until 2011).

11 The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2007 Rate, the tax equivalency is the levy for the 2005-2006 tax year divided by the average water deliveries for 2003, 2004 and 2005). The Advisory Rates are estimates.

12 A component to compensate for loss of revenues from Federal deliveries resulting from adding AWBA and M&I/CAGRD incentive and SRP bring your own power deliveries (derived by formula).

13 Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.

14 Underground Water Storage capital charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGRD, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.

15 The Water & Replenishment Component includes the projected cost to purchase and recharge water. For 2006/2007, the water supply is assumed to be Excess CAP water at the full Excess CAP water rate. For the 2007/2008 advisory rate (based on purchases in 2008), it is assumed that CAGRD will use reclaimed effluent as part of its water supply to meet obligations. The total volume to be purchased and replenished includes the replenishment obligation and a sufficient volume to offset losses incurred during the replenishment process (1%). For the Phoenix and Tucson Active Management Areas (AMAs), replenishment will be accomplished at direct and indirect underground water storage facilities. For the Pinal AMA, replenishment will be accomplished at groundwater savings facilities.

16 The Administrative Component was established so that repayment of all CAWCD advances would occur by the end of 2007. $2/AF has been added to the Administrative component to help fund the CAGRD conservation program for years 2006/2007 through 2011/2012.

17 The Infrastructure & Water Rights Component was established to provide funds to (1) purchase long-term rights to water as opportunities arise, and (2) construct additional infrastructure facilities as the need arises in the future.

18 The Replenishment Reserve Charge is based on a program to establish a replenishment reserve of long-term storage credits as required by statutes. Excess CAP water will be purchased at the CAP Incentive Recharge rate and stored at a combination of direct recharge facilities and groundwater savings facilities in the Phoenix and Tucson AMAs. In the Pinal AMA, credits will be purchased from CAP at the incentive recharge rate in accordance with Board policy adopted on October 6, 2005. This charge will be levied as provided in ARS Section 48-3774.01.

19 The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater Between CAWCD and Scottsdale.

CENTRAL ARIZONA PROJECT
FINAL 2007/2008 RATE SCHEDULE

20 The Enrollment Fee and Activation Fee reflect the fees established pursuant to the CAGRD Enrollment Fee and Activation Fee Policy adopted by the Board on May 6, 2004. $2 per housing unit has been added to the enrollment fee starting with the 2006/2007 period to help fund CAGRD's conservation program.

Adopted: June 19, 2008
Amended: June 4, 2009

CENTRAL ARIZONA PROJECT
FINAL 2009/2010 RATE SCHEDULE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = $/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2008	Firm 2009	Firm 2010	Advisory 2011	Advisory 2012	Advisory 2013	Advisory 2014
Municipal and Industrial							
Long Term Subcontract (C+D) [1]	$ 91	$ 108	$ 118	$ 127	$ 136	$ 144	$ 149
Excess Water (A+C+D)	112	126	133	139	136	144	149
Incentive Recharge [2]	51	82	133	N/A	N/A	N/A	N/A
AWBA Interstate Recharge (A+C+F+G) [3]	219	233	231	165	165	175	184
Federal (C+D)	$ 91	$ 108	$ 118	$ 127	$ 136	$ 144	$ 149
Agricultural							
Settlement Pool (D) [4]	$ 36	$ 45	$ 49	$ 50	$ 53	$ 56	$ 58
Long Term Subcontract (B+C+D) [5]	93	110	120	129	136	144	149
Agricultural Incentives [4]							
Meet Settlement Pool Goals	n/a	(6)	(6)	tbd	tbd	tbd	tbd
Meet AWBA/CAGRD GSF Goals	n/a	(1)	(2)	tbd	tbd	tbd	tbd
Meet Recovery Goals	n/a	(1)	(2)	tbd	tbd	tbd	tbd
Miscellaneous [6]	$ 46	$ 82	$ 133	$ 139	$ 136	$ 144	$ 149

RATE COMPONENTS

Units = $/acre-foot

	2008	Firm 2009	Firm 2010	Advisory 2011	Advisory 2012	Advisory 2013	Advisory 2014
Capital Charges							
(A) Municipal and Industrial - Long Term Subcontract [7]	$ 21	$ 18	$ 15	$ 12	$ -	$ -	$ -
(B) Agricultural - Long Term Subcontract [5]	2	2	2	2	-	-	-
Delivery Charges							
(C) Fixed OM&R [8]	$ 55	$ 63	$ 69	$ 77	$ 83	$ 88	$ 91
(D) Pumping Energy Rate 1 [9]	36	45	49	50	53	56	58
(E) Pumping Energy Rate 2 [10]	41	70	85	n/a	n/a	n/a	n/a
(F) Pumping Energy Rate 3 [11]	115	125	122	n/a	n/a	n/a	n/a
(G) Property Tax Equivalency [12]	28	27	25	26	29	31	35
(H) Lost Federal Revenues [13]	5	n/a	n/a	n/a	n/a	n/a	n/a

Qualifications for Various Classes of Water Service

Long-Term Municipal and Industrial (M&I) Subcontract: M&I subcontractors.
Excess: M&I users who are not subcontractors and the CAGRD; rate is for "as available" water.
Incentive Recharge (AWBA/CAGRD and M&I Incentive Underground Water Storage): The Arizona Water Banking Authority (available for scheduling after all other schedules have been filled) and M&I subcontractors and other Arizona entities who have valid Arizona Department of Water Resources permits and accrue long-term recharge/storage credits from this activity.

Adopted: June 19, 2008
Amended: June 4, 2009

CENTRAL ARIZONA PROJECT
FINAL 2009/2010 RATE SCHEDULE

DIRECT UNDERGROUND WATER STORAGE
Units = $/acre-foot

	2008	Firm 2009	Firm 2010	Advisory 2011	2012	2013	2014
Underground Water Storage O&M [14]							
Phoenix AMA	$ 8	$ 8	$ 8	$ 9	$ 10	$ 11	$ 11
Tucson AMA	15	15	15	15	16	17	18
Underground Water Storage Capital Charge [15]							
Phoenix AMA	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15
Tucson AMA	9	9	9	9	9	9	9

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

	Historic 2007/08	Firm 2008/09	Firm 2009/10	Advisory 2010/11	2011/12	2012/13	2013/14
Phoenix Active Management Area							
Water & Replenishment Component [16]	$ 112	$ 134	$ 143	$ 154	$ 157	$ 162	$ 166
Administrative Component [17]	28	33	33	31	29	27	25
Infrastructure & Water Rights Component [18]	79	90	101	112	115	118	122
Replenishment Reserve Charge [19]	21	33	41	49	57	60	63
Total Assessment Rate ($/AF)	$ 240	$ 290	$ 318	$ 346	$ 358	$ 367	$ 376
Pinal Active Management Area							
Water & Replenishment Component [16]	$ 87	$ 100	$ 107	$ 117	$ 117	$ 125	$ 134
Administrative Component [17]	28	33	33	31	29	27	25
Infrastructure & Water Rights Component [18]	79	90	101	112	115	118	122
Replenishment Reserve Charge [19]	25	31	38	45	51	54	56
Total Assessment Rate ($/AF)	$ 219	$ 254	$ 279	$ 305	$ 312	$ 324	$ 337
Tucson Active Management Area							
Water & Replenishment Component [16]	$ 133	$ 143	$ 153	$ 164	$ 161	$ 168	$ 177
Administrative Component [17]	28	33	33	31	29	27	25
Infrastructure & Water Rights Component [18]	79	90	101	112	115	118	122
Replenishment Reserve Charge [19]	25	39	46	54	61	65	67
Total Assessment Rate ($/AF)	$ 265	$ 305	$ 333	$ 361	$ 366	$ 378	$ 391
Contract Replenishment Tax - Scottsdale [20]							
Cost of Water	$ 108	$ 112	$ 126	$ 133	$ 139	$ 136	$ 144
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component [17]	28	33	33	31	29	27	25
Total Tax Rate ($/AF)	$ 136	$ 145	$ 159	$ 164	$ 168	$ 163	$ 169

ENROLLMENT & ACTIVATION FEES
Units = $/Housing Unit

Enrollment Fee [21]	$ 23	$ 74	$ 83	$ 92	$ 94	$ 96	$ 100
Activation Fee [21]	$ 63	$ 72	$ 81	$ 90	$ 92	$ 94	$ 98

Adopted: June 19, 2008
Amended: June 4, 2009

CENTRAL ARIZONA PROJECT
FINAL 2009/2010 RATE SCHEDULE

NOTES:

1 Does not include the Capital Charge.

2 Rate transitions to M&I rate in 2010 and is included in "Excess Water" beginning in 2011. This rate applies to all incentive recharge customers. Rules regarding the eligibility for and use of M&I Incentive Underground Water Storage are shown on page 1.

3 Rate is the Fixed OM&R component plus the Pumping Energy Rate 3 component plus the M&I Capital Charge plus an equivalency tax component. Starting in 2011 Pumping Energy Rate 1 replaces Pumping Energy Rate 3 as a rate component.

4 Rate is the Pumping Energy Rate 1 component. Incentives may be earned for meeting delivery goals in three areas. Any incentives earned can be applied to Settlement Pool deliveries.

5 Ag capital charge is billed separately from the delivery charge, but is based on deliveries.

6 Starting in 2009, the Miscellaneous Rate is the same as the Incentive Recharge Rate.

7 Capital charge is paid on full allocation regardless of amount delivered; not included in delivery rates.

8 Fixed O&M costs divided by projected total water volumes plus a component to fund capital replacements. This amount is collected on all ordered water whether delivered or not.

9 Applies to all water deliveries except AWBA and M&I/CAGRD Incentive Underground Water Storage, AWBA Interstate and SRP bring-your-own power acre-feet. Net pumping energy costs divided by projected deliveries. This amount is collected only for water actually delivered as opposed to scheduled.

10 Applies to AWBA and M&I/CAGRD Incentive Underground Water Storage and SRP bring-your-own power acre-feet. Rate is the average of the prior 3 years actual or forecasted rate. Starting in 2009 a $5/AF Energy Rate 2 catch-up component is included. The SRP rate is the incentive recharge rate less Energy Rate 2.

11 Rate is based upon the estimated cost of purchasing CAP's highest cost energy (above threshold energy until 2011).

12 The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2009 Rate, the tax equivalency is the levy for the 2007-2008 tax year divided by the average water deliveries for 2005, 2006 and 2007). The Advisory Rates are estimates.

13 A component to compensate for loss of revenues from Federal deliveries resulting from adding AWBA and M&I/CAGRD incentive and SRP bring your own power deliveries (derived by formula). This component is eliminated starting with the 2009 rates.

14 Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.

15 Underground Water Storage capital charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGRD, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.

16 The Water & Replenishment Component includes the projected cost to purchase and recharge water and effluent. For rate development purposes it was assumed that the replenishment of effluent would have the same cost as Excess CAP water recharged at a CAP state demonstration recharge project. The total volume to be purchased and replenished includes the replenishment obligation plus a sufficient volume to offset losses incurred during the replenishment process (generally 1% to 2.5%). For the Phoenix Active Management Area (AMA), replenishment will be accomplished at direct underground storage facilities (USFs) and groundwater savings facilities facilities (GSFs). For the Pinal AMA, replenishment will be accomplished at GSFs. For the Tucson AMA, replenishment will be accomplished at USFs.

17 The Administrative Component is designed to cover all CAGRD administrative costs. $2/AF has been added to this component to help fund the CAGRD conservation program.

18 The Infrastructure & Water Rights Component was established to provide funds to (1) purchase long-term rights to water as opportunities arise, and (2) construct additional infrastructure facilities as the need arises in the future.

19 The Replenishment Reserve Charge is based on a program to establish a replenishment reserve of long-term storage credits as required by statutes. Excess CAP water will be purchased at the CAP Incentive Recharge rate and stored at a combination of USFs and GSFs in the Phoenix and Tucson AMAs. In the Pinal AMA, credits will be purchased from CAP at the incentive recharge rate in accordance with Board policy adopted on October 6, 2005. This charge will be levied as provided in ARS Sections 48-3774.01 and 48-3780.01.

CENTRAL ARIZONA PROJECT
FINAL 2009/2010 RATE SCHEDULE

20 The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater Between CAWCD and Scottsdale. The rates reflect the assumption that Excess CAP water will be available to meet the associated contract replenishment obligations.

21 The Enrollment Fee and Activation Fee reflect the fees established pursuant to the CAGRD Enrollment Fee and Activation Fee Policy adopted by the Board on May 1, 2008. $2 per housing unit is included to the enrollment fee to help fund CAGRD's conservation program.

Final Updated
June 2, 2011

CENTRAL ARIZONA PROJECT
FINAL 2011/2012 RATE SCHEDULE UPDATE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = $/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2010	Firm 2011	Firm 2012	Advisory 2013	Advisory 2014	Advisory 2015	Advisory 2016
Municipal and Industrial							
Long Term Subcontract (B+C) [1]	$ 118	$ 122	$ 122	$ 126	$ 129	$ 137	$ 141
Non-Subcontract (A+B+C)	133	137	137	141	139	142	141
Recharge (A+B+C starting 2011) [2]	133	137	137	141	139	142	141
AWBA Interstate Recharge (A+B+E+F starting 2011) [3]	236	167	163	164	162	166	167
Federal (B+C)	$ 118	$ 122	$ 122	$ 126	$ 129	$ 137	$ 141
Agricultural							
Settlement Pool (C) [4]	$ 49	$ 53	$ 49	$ 50	$ 51	$ 56	$ 58
Agricultural Incentives [4]							
Meet Settlement Pool Goals	(6)	(8)	(4)	tbd	tbd	tbd	tbd
Meet AWBA/CAGRD GSF Goals	(2)	(2)	(1)	tbd	tbd	tbd	tbd
Meet Recovery Goals	(2)	(2)	(1)	tbd	tbd	tbd	tbd

RATE COMPONENTS

Units = $/acre-foot

Capital Charges							
(A) Municipal and Industrial - Long Term Subcontract [5]	$ 15	$ 15	$ 15	$ 15	$ 10	$ 5	$ -
Delivery Charges							
(B) Fixed OM&R [6]	$ 69	$ 69	$ 73	$ 76	$ 78	$ 81	$ 83
(C) Pumping Energy Rate 1 [7]	49	53	49	50	51	56	58
(D) Pumping Energy Rate 2 [8]	85	n/a	n/a	n/a	n/a	n/a	n/a
(E) Pumping Energy Rate 3 [9]	122	n/a	n/a	n/a	n/a	n/a	n/a
(F) Property Tax Equivalency [10]	30	30	26	23	23	24	26

Qualifications for Various Classes of Water Service

Long-Term Municipal and Industrial (M&I) Subcontract: M&I subcontractors.
Non-Subcontract: M&I users who are not subcontractors and the CAGRD.
Recharge (AWBA/CAGRD and M&I Underground Water Storage): The Arizona Water Banking Authority and M&I subcontractors and other Arizona entities who have valid Arizona Department of Water Resources permits and accrue long-term recharge/storage credits from this activity.

DIRECT UNDERGROUND WATER STORAGE

Units = $/acre-foot

Underground Water Storage O&M [11]							
Phoenix AMA	$ 8	$ 8	$ 8	$ 8	$ 8	$ 8	$ 8
Tucson AMA	15	15	15	15	15	15	15
Underground Water Storage Capital Charge [12]							
Phoenix AMA	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15
Tucson AMA	9	9	9	9	9	9	9

Final Updated
June 2, 2011

CENTRAL ARIZONA PROJECT
FINAL 2011/2012 RATE SCHEDULE UPDATE

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT ASSESSMENT RATES

Units = $/acre-foot

		Firm	Firm	Advisory			
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16
Phoenix Active Management Area							
Water & Replenishment Component [13]	$ 143	$ 140	$ 140	$ 140	$ 144	$ 157	$ 156
Administrative Component [14]	33	38	42	44	44	44	44
Infrastructure & Water Rights Component [15]	101	131	170	204	245	294	353
Replenishment Reserve Charge [16]	41	47	51	54	54	55	55
Total Assessment Rate ($/AF)	$ 318	$ 356	$ 403	$ 442	$ 487	$ 550	$ 608
Pinal Active Management Area							
Water & Replenishment Component [13]	$ 107	$ 110	$ 116	$ 120	$ 121	$ 133	$ 128
Administrative Component.[14]	33	38	42	44	44	44	44
Infrastructure & Water Rights Component [15]	101	131	170	204	245	294	353
Replenishment Reserve Charge [16]	38	45	53	61	60	61	61
Total Assessment Rate ($/AF)	$ 279	$ 324	$ 381	$ 429	$ 470	$ 532	$ 586
Tucson Active Management Area							
Water & Replenishment Component [13]	$ 153	$ 155	$ 155	$ 161	$ 164	$ 166	$ 163
Administrative Component [14]	33	38	42	44	44	44	44
Infrastructure & Water Rights Component [15]	101	131	170	204	245	294	353
Replenishment Reserve Charge [16]	46	53	60	65	61	59	57
Total Assessment Rate ($/AF)	$ 333	$ 377	$ 427	$ 474	$ 514	$ 563	$ 617
Contract Replenishment Tax - Scottsdale [17]							
Cost of Water	$ 126	$ 133	$ 137	$ 137	$ 141	$ 139	$ 142
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component [14]	33	38	42	44	44	44	44
Total Tax Rate ($/AF)	$ 159	$ 171	$ 179	$ 181	$ 185	$ 183	$ 186

CAGRD ENROLLMENT & ACTIVATION FEES

Units = $/Housing Unit

Enrollment Fee [18]	$ 83	$ 107	$ 138	$ 165	$ 198	$ 237	$ 284
Activation Fee [18]	$ 81	$ 105	$ 136	$ 163	$ 196	$ 235	$ 282

CAGRD ANNUAL MEMBERSHIP DUES

Member Land Annual Membership Dues ($/Lot) [19]							
Phoenix Active Management Area	–	–	$ 6.88	$ 8.80	TBD	TBD	TBD
Pinal Active Management Area	–	–	$ 0.90	$ 1.15	TBD	TBD	TBD
Tucson Active Management Area	–	–	$ 4.34	$ 5.55	TBD	TBD	TBD
Member Service Area Annual Membership Dues ($/AF) [19]	–	–	$10.35	$13.32	TBD	TBD	TBD

Final Updated
June 2, 2011

CENTRAL ARIZONA PROJECT
FINAL 2011/2012 RATE SCHEDULE UPDATE

NOTES:

1 Does not include the Capital Charge.

2 Rate is equal to M&I rate starting in 2011. This rate applies to all recharge customers. Rules regarding the eligibility for and use of this class are shown on page 1. For 2010, the recharge rate consists of Energy Rate 2 and a contribution toward covering a portion of the Fixed OM&R Rate.

3 The 2010 rate is obtained by adding the Fixed OM&R component, the Pumping Energy Rate 3 component, the M&I Capital Chargeand an equivalency tax component. Starting in 2011 Pumping Energy Rate 1 replaces Pumping Energy Rate 3 as a rate component.

4 Rate is the Pumping Energy Rate 1 component. Incentives may be earned for meeting delivery goals in three areas. Any incentives earned can be applied to Settlement Pool deliveries.

5 Capital Charge is paid on full allocation regardless of amount delivered; not included in delivery rates.

6 Fixed O&M costs divided by projected total water volumes plus a components to fund capital replacements and a rate stabilization reserve. This amount is collected on all ordered water whether delivered or not.

7 Applies to all water deliveries starting in 2011. For 2010, water volumes were excluded for Recharge, AWBA Interstate and SRP bring-your-own power acre-feet. The calculation is pumping energy costs divided by projected volumes. This amount is collected only for water actually delivered as opposed to scheduled.

8 Energy Rate 2 is eliminated starting in 2011 due to new power agreements.

9 Energy Rate 3 is eliminated starting in 2011 due to new power agreements.

10 The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2010, the tax equivalency is the levy for the 2008-2009 tax year divided by the average water deliveries for 2006, 2007 and 2008). The Advisory Rates are estimates. Note the 2010 rate has been revised.

11 Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.

12 Underground Water Storage Capital Charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGRD, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.

13 The Water & Replenishment Component is designed to cover 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. The total volume of water to be purchased and replenished includes a sufficient volume to offset losses incurred during the replenishment process (generally 1% to 2.5%). For the Phoenix Active Management Area (AMA), replenishment will be accomplished at direct underground storage facilities (USFs) and groundwater savings facilities (GSFs) as well as through the use of LTSCs purchased from others. For the Pinal AMA, replenishment will be accomplished at GSFs. For the Tucson AMA, replenishment will be accomplished at USFs as well as through the use of LTSCs purchased from others.

14 The Administrative Component is designed to cover all CAGRD administrative costs. A $2/AF rate has been added to this component to help fund the CAGRD conservation program.

15 The Infrastructure & Water Rights Component is designed to generate funds required for the acquisition, lease or exchange of water or water rights and development of infrastructure necessary for CAGRD to perform its replenishment obligations.

16 The Replenishment Reserve Charge is designed to cover costs associated with establishing a replenishment reserve of LTSCs as required by statutes. Water will be stored at a combination of USFs and GSFs in the Phoenix and Tucson AMAs. LTSCs purchased from CAP and others will also be used to help establish the replenishment reserve in the Phoenix and Tucson AMAs. In the Pinal AMA, LTSCs will be purchased from CAP in accordance with Board policy adopted on October 6, 2005. This charge will be levied as provided in ARS Sections 48-3774.01 and 48-3780.01.

17 The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater between CAWCD and Scottsdale. The rates reflect the assumption that Non-Subcontract CAP water will be available to meet the associated contract replenishment obligations.

18 The Enrollment Fee and Activation Fee reflect the fees established 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.

19 The Annual Membership Dues for Member Lands and Member Service Areas reflect the fees established 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.

Approved
June 7, 2012

CENTRAL ARIZONA PROJECT
FINAL 2013 - 2018 RATE SCHEDULE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = $/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2012	Firm 2013	Provisional 2014	Advisory 2015	Advisory 2016	Advisory 2017	Advisory 2018
Municipal and Industrial							
Long Term Subcontract (B+C) [1]	$ 122	$ 129	$ 138	$ 149	$ 155	$ 159	$ 160
Non-Subcontract (A+B+C)	137	144	154	166	173	177	178
Recharge (A+B+C) [2]	137	144	154	166	173	177	178
AWBA Interstate Recharge (A+B+C+D) [3]	165	168	177	190	198	204	208
Federal (B+C)	$ 122	$ 129	$ 138	$ 149	$ 155	$ 159	$ 160
Agricultural							
Settlement Pool (C) [4]	$ 49	$ 53	$ 59	$ 66	$ 68	$ 70	$ 68
Agricultural Incentives [4]							
Meet Settlement Pool Goals	(4)	(6)	(7)	(11)	(11)	(11)	(7)
Meet AWBA/CAGRD GSF Goals	(1)	(1)	(2)	(2)	(2)	(2)	(2)
Meet Recovery Goals	(1)	(1)	(2)	(2)	(2)	(2)	(2)

RATE COMPONENTS

Units = $/acre-foot

Capital Charges							
(A) Municipal and Industrial - Long Term Subcontract [5]	$ 15	$ 15	$ 16	$ 17	$ 18	$ 18	$ 18
Delivery Charges							
(B) Fixed OM&R [6]	$ 73	$ 76	$ 79	$ 83	$ 87	$ 89	$ 92
(C) Pumping Energy Rate 1 [7]	49	53	59	66	68	70	68
(D) Property Tax Equivalency [8]	28	24	23	24	25	27	30

Qualifications for Various Classes of Water Service

Long-Term Municipal and Industrial (M&I) Subcontract: M&I subcontractors.
Non-Subcontract: M&I users who are not subcontractors and the CAGRD.
Recharge (AWBA/CAGRD and M&I Underground Water Storage): The Arizona Water Banking Authority and M&I subcontractors and other Arizona entities who have valid Arizona Department of Water Resources permits and accrue long-term recharge/storage credits from this activity.

DIRECT UNDERGROUND WATER STORAGE

Units = $/acre-foot

Underground Water Storage O&M [9]							
Phoenix AMA	$ 8	$ 8	$ 8	$ 9	$ 9	$ 10	$ 10
Tucson AMA	15	15	15	15	15	15	15
Underground Water Storage Capital Charge [10]							
Phoenix AMA	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15
Tucson AMA	9	9	9	9	9	9	9

Approved
June 7, 2012

CENTRAL ARIZONA PROJECT
FINAL 2013 - 2018 RATE SCHEDULE

CENTRAL ARIZONA GROUNDWATER REPLENISHMENT DISTRICT ASSESSMENT RATES

Units = $/acre-foot

	Firm		Provi-sional	Advisory			
	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Phoenix Active Management Area							
Water & Replenishment Component [11]	$ 140	$ 137	$ 148	$ 161	$ 168	$ 171	$ 177
Administrative Component [12]	42	44	45	45	45	41	37
Infrastructure & Water Rights Component [13]	170	204	245	294	353	353	353
Replenishment Reserve Charge [14]	51	52	54	59	62	63	66
Total Assessment Rate ($/AF)	$ 403	$ 437	$ 492	$ 559	$ 628	$ 628	$ 633
Pinal Active Management Area							
Water & Replenishment Component [11]	$ 116	$ 117	$ 128	$ 141	$ 148	$ 152	$ 154
Administrative Component [12]	42	44	45	45	45	41	37
Infrastructure & Water Rights Component [13]	170	204	245	294	353	353	353
Replenishment Reserve Charge [14]	53	56	60	65	69	76	76
Total Assessment Rate ($/AF)	$ 381	$ 421	$ 478	$ 545	$ 615	$ 622	$ 620
Tucson Active Management Area							
Water & Replenishment Component [11]	$ 155	$ 161	$ 171	$ 183	$ 190	$ 194	$ 197
Administrative Component [12]	42	44	45	45	45	41	37
Infrastructure & Water Rights Component [13]	170	204	245	294	353	353	353
Replenishment Reserve Charge [14]	60	65	69	74	78	80	84
Total Assessment Rate ($/AF)	$ 427	$ 474	$ 530	$ 596	$ 666	$ 668	$ 671
Contract Replenishment Tax - Scottsdale [15]							
Cost of Water	$ 137	$ 137	$ 144	$ 154	$ 166	$ 173	$ 177
Cost of Transportation	0	0	0	0	0	0	0
Cost of Replenishment	0	0	0	0	0	0	0
Administrative Component [12]	42	44	45	45	45	41	37
Total Tax Rate ($/AF)	$ 179	$ 181	$ 189	$ 199	$ 211	$ 214	$ 214

ENROLLMENT & ACTIVATION FEES

Units = $/Housing Unit

Enrollment Fee [16]	$ 138	$ 165	$ 198	$ 237	$ 284	n.a.	n.a.
Activation Fee [16]	$ 136	$ 163	$ 196	$ 235	$ 282	$ 282	$ 282

ANNUAL MEMBERSHIP DUES

Member Land Annual Membership Dues ($/Lot) [17]							
Phoenix Active Management Area	$ 6.88	$ 9.87	$13.19	$17.91	TBD	TBD	TBD
Pinal Active Management Area	$ 0.90	$ 1.29	$ 1.74	$ 2.41	TBD	TBD	TBD
Tucson Active Management Area	$ 4.34	$ 6.24	$ 8.38	$11.53	TBD	TBD	TBD
Member Service Area Annual Membership Dues ($/AF) [17]	$10.35	$14.88	$20.08	$27.91	TBD	TBD	TBD

Approved
June 7, 2012

CENTRAL ARIZONA PROJECT
FINAL 2013 - 2018 RATE SCHEDULE

NOTES:

1 Does not include the Capital Charge.

2 This rate applies to all recharge customers. Rules regarding the eligibility for and use of this class are shown on page 1.

3 The rate is obtained by adding the Fixed OM&R component, the Pumping Energy Rate 1 component, the M&I Capital Charge and an equivalency tax component.

4 Rate is the Pumping Energy Rate 1 component. Incentives may be earned for meeting delivery goals in three areas. Any incentives earned are applied to Settlement Pool deliveries.

5 For M&I subcontract water, the Capital Charge is paid on full allocation regardless of amount delivered and not included in delivery rates.

6 Fixed O&M costs divided by projected total water volumes plus components to fund capital replacements and a rate stabilization reserve. This amount is collected on all ordered water whether delivered or not.

7 Applies to all water deliveries. The calculation is pumping energy costs divided by projected volumes. This amount is collected only for water actually delivered as opposed to scheduled.

8 The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2012, the tax equivalency is the levy for the 2010-2011 tax year divided by the average water deliveries for 2008, 2009 and 2010). The Provisional and Advisory Rates are estimates. Note the 2012 rate has been revised.

9 Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.

10 Underground Water Storage Capital Charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGRD, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.

11 The Water & Replenishment Component is designed to cover 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. The total volume of water to be purchased and replenished includes a sufficient volume to offset losses incurred during the replenishment process (generally 1% to 2.5%). 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.

12 The Administrative Component is designed to cover all CAGRD administrative costs, except labor related costs associated with the acquisition of water rights and infrastructure. A $2/AF has been added to this component to help fund the CAGRD conservation program.

13 The Infrastructure & Water Rights Component is designed to generate funds to purchase long-term rights to water, and construct additional infrastructure facilities as the need arises.

14 The Replenishment Reserve Charge is designed to cover costs associated with establishing a replenishment reserve of LTSCs as required by statutes. Water will be stored at a combination of USFs and GSFs in the Phoenix AMA, and at USFs the Tucson AMA. In the Pinal AMA, LTSCs will be purchased from CAP in accordance with Board policy adopted on October 6, 2005. This charge will be levied as provided in ARS Sections 48-3774.01 and 48-3780.01.

15 The components of the Contract Replenishment Tax - Scottsdale reflect the provisions in the Water Availability Status Contract to Replenish Groundwater between CAWCD and Scottsdale. The rates reflect the assumption that Non-Subcontract CAP water will be available to meet the associated contract replenishment obligations.

16 The Enrollment Fee and Activation Fee reflect the fees established 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.

17 The Annual Membership Dues for Member Lands and Member Service Areas reflect the fees established 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.

Approved
June 6, 2013

CENTRAL ARIZONA PROJECT
FINAL 2014 - 2015 RATE SCHEDULE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = $/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2012	2013	Firm 2014	Advisory 2015
Municipal and Industrial				
Long Term Subcontract (B+C) [1]	$ 122	$ 129	$ 146	$ 157
Non-Subcontract (A+B+C)	137	144	166	178
Recharge (A+B+C) [2]	137	144	166	178
AWBA Interstate Recharge (A+B+C+D) [3]	165	168	189	202
Federal (B+C)	$ 122	$ 129	$ 146	$ 157
Agricultural				
Settlement Pool (C) [4]	$ 49	$ 53	$ 67	$ 74
Agricultural Incentives [4]				
Meet Settlement Pool Goals	(4)	(6)	(14)	(17)
Meet AWBA/CAGRD GSF Goals	(1)	(1)	(2)	(2)
Meet Recovery Goals	(1)	(1)	(2)	(2)

RATE COMPONENTS

Units = $/acre-foot

	2012	2013	Firm 2014	Advisory 2015
Capital Charges				
(A) Municipal and Industrial - Long Term Subcontract [5]	$ 15	$ 15	$ 20	$ 21
Delivery Charges				
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(D) Property Tax Equivalency [8]	28	24	23	24

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	2012	2013	Firm 2014	Advisory 2015
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Phoenix AMA	$ 8	$ 8	$ 8	$ 9
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CENTRAL ARIZONA PROJECT
FINAL 2014 - 2015 RATE SCHEDULE

Approved
June 6, 2013

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	2011/12	2012/13	Firm 2013/14	Advisory 2014/15
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Water & Replenishment Component [11]	$ 140	$ 137	$ 160	$ 173
Administrative Component [12]	42	44	45	45
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Replenishment Reserve Charge [14]	51	52	58	63
Total Assessment Rate ($/AF)	$ 403	$ 437	$ 508	$ 575
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Water & Replenishment Component [11]	$ 116	$ 117	$ 140	$ 153
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Water & Replenishment Component [11]	$ 155	$ 161	$ 183	$ 195
Administrative Component [12]	42	44	45	45
Infrastructure & Water Rights Component [13]	170	204	245	294
Replenishment Reserve Charge [14]	60	65	75	80
Total Assessment Rate ($/AF)	$ 427	$ 474	$ 548	$ 614
Contract Replenishment Tax - Scottsdale [15]				
Cost of Water	$ 137	$ 137	$ 144	$ 166
Cost of Transportation	0	0	0	0
Cost of Replenishment	0	0	0	0
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Approved
June 6, 2013

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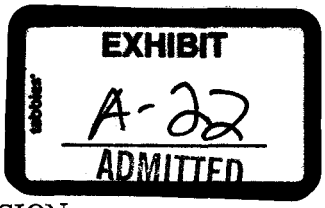

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

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

REBUTTAL TESTIMONY
OF
JAKE LENDERKING
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
FEBRUARY 9, 2015

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III. RETENTION OF THE SUN CITY GSF MECHANISM 1
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V. COMPLIANCE WITH PRIOR COMMISSION DECISIONS 6

EXECUTIVE SUMMARY

Jake Lenderking responds to the testimony of the Residential Utility Consumer Office ("RUCO") in relation to EPCOR Water Arizona Inc.'s ("EWAZ" or "Company") proposal to continue its GSF surcharge in the Sun City Water District and its CAP surcharge in the Paradise Valley Water District. Mr. Lenderking discusses the continued rising prices of CAP water and the policy reasons in favor of the continued use of these mechanisms. Mr. Lenderking also discusses concerns raised regarding the Company's compliance with prior decisions in relation to these surcharges.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND TELEPHONE NUMBER.

A. My name is Jake Lenderking. My business address is 2355 W. Pinnacle Peak Road, Suite 300, Phoenix, Arizona 85027, and my business phone is (623) 445 - 2410.

Q. ARE YOU THE SAME JAKE LENDERKING WHO PROVIDED DIRECT TESTIMONY IN THIS MATTER?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. The primary purpose of my testimony is to respond to testimony by Arizona Corporation Commission ("ACC", or "Commission") Staff and the Residential Utility Consumer Office ("RUCO") relating to the Company's request to continue its Groundwater Savings Fee ("GSF") Mechanism in the Sun City Water District and its CAP Surcharge in the Paradise Valley Water District.

III. RETENTION OF THE SUN CITY GSF MECHANISM

Q. RUCO RECOMMENDS THAT THE COMMISSION NOT ALLOW THE COMPANY TO CONTINUE ITS GSF MECHANISM IN THE SUN CITY DISTRICT. HOW DO YOU RESPOND?

A. RUCO's recommendation misses the details and the benefits of the Sun City GSF mechanism. There are multiple benefits to both the customers and the Company by allowing the Company to retain its Sun City GSF mechanism, among them: the

appropriate and exact recovery of an essential expense for a valuable resource, the ability to send the proper and timely pricing signals to customers, and the extension and continuation of the Commission policy of rate gradualism.

Q. PLEASE EXPLAIN FURTHER.

A. Certainly. Central Arizona Project ("CAP") water pricing has increased at a much faster pace than other expenses and the GSF mechanism captures these price increases each and every year. Capturing any CAP water price increases on an annual basis not only helps to guard against rate shock, but it also provides timely and appropriate price signals to customers.

Q. PLEASE EXPLAIN THE CAP WATER PRICING INCREASES FURTHER.

A. The Central Arizona Water Conservation District ("CAWCD") board sets CAP rates based on projected costs for the year in question. The actual costs and the projections have risen dramatically over the last ten years. In fact, these costs have risen so much that the CAWCD board has increased rates by an annual average rate of 6.03%[1].

Q. DOES CAWCD PROVIDE ANY INDICATION THAT RATES WILL CONTINUE TO RISE?

A. Yes. In my direct testimony I outlined the projected CAP rates. I have also attached the latest projected rates in Exhibit JCL – 1 showing a year over year increase in CAP rates.

Q. HAS CAP RATES INCREASED AS PROJECTED?

A. Yes and no. CAP rates have increased, however they have increased faster than previously projected. I have attached them in Exhibit JCL – 1.

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[1] The 10-year (2006 – 2015) average price change of 6.03 percent can be viewed through a review of CAP rates for 2006 – 2015 and are provided in Exhibit JCL -1 to my direct testimony.

Q. ARE THERE ANY UNKNOWNS WITH REGARD TO CAP RATES?

A. Yes. In addition to ever increasing costs to CAWCD there is the possibility of a shortage declaration by the Secretary of the Interior on the Colorado River. A shortage declaration would reduce CAP water supplies by approximately 20%. CAWCD estimates that a 20% reduction in its water supplies will result in an increase of 25% to the Operation, Maintenance & Repair ("OM&R") portion of CAP water rates to customers. Considering the present water storage in the Colorado River system, a shortage declaration may occur as soon as 2016 or 2017 causing a significant increase to CAP rates.

Q. ARE THERE ANY OTHER UNKNOWNS IN REGARDS TO CAP PRICES?

A. Yes. As I mentioned earlier, CAWCD sets rates based on projected costs and often those projected costs are incorrect, sometimes lower and sometimes higher than actual costs. At the close of each year, the CAWCD board reconciles the projected (and collected) costs with the actual costs and revenues collected. CAWCD can then either bill its customers for the shortfall or credit its customers for the overpayment. The GSF mechanism provides the perfect tool for the Company to account for these types of increased costs and/or credits from CAWCD as the GSF mechanism trues up or reduces CAP-related expenses each and every year.

Q. RUCO SPECIFICALLY TAKES ISSUE WITH THE COMPANY'S ACCOUNTING FOR THIS SURCHARGE. WHAT IS THE COMPANY'S RESPONSE?

A. RUCO disagrees with the Company's accounting treatment of the CAP related expenses. Please see the rebuttal testimony of Ms. Sheryl L. Hubbard for more on this.

Q. WHAT OTHER ACCOUNTING ISSUE DOES RUCO TAKE ISSUE WITH?

A. RUCO completely dismisses the surcharge and attempts to make an adjustment to include CAP related expenses in base rates.

Q. IF THE COMMISSION DISALLOWS THE SURCHARGE MECHANISM SHOULD IT USE RUCO'S ADJUSTMENT?

A. No. Mr. Michlik makes an adjustment of $549,527 in CAP-related expenses, one which is based on 2013 costs. This estimate is inconsistent with his proposal of calculating CAP expense in prior cases.[2] It is now 2015 and the Company is currently paying higher known and measurable costs. Further, CAP is again publishing advisory rates. While the Company firmly disagrees with Mr. Michlik's proposed methodology[3] of averaging published CAP advisory rates and continues to strongly support the continued use of the surcharge mechanism, I have worked through his methodology to arrive at a correct CAP expense of $762,398 (attached as Exhibit JCL – 2).

Q. WHY CAN'T THE COMPANY JUST RECOVER THE COSTS THROUGH BASE RATES AS RUCO HAS PROPOSED?

A. Base rates are able to reflect costs at a point in time, but CAP water rates change annually.

Q. DID COMMISSION STAFF HAVE AN OPINION REGARDING THE SUN CITY GSF MECHANISM?

A. Yes. Staff, "recommends retaining the GSF surcharge for the Sun City District for the same reasons as the Paradise Valley Water District's CAP surcharge."

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[2] Direct testimony of Mr. Michlik, Docket No. W-02113A-13-0118, at 49–50.
[3] *Id.*

IV. RETENTION OF PARADISE VALLEY CAP SURCHARGE MECHANISM

Q. RUCO ALSO RECOMMENDS THAT THE COMMISSION NOT ALLOW THE COMPANY TO CONTINUE ITS CAP SURCHARGE IN THE PARADISE VALLEY WATER DISTRICT. WHAT IS THE COMPANY'S RESPONSE?

A. The Company firmly disagrees with RUCO's recommendation regarding the Paradise Valley CAP Surcharge mechanism. The Paradise Valley CAP Surcharge mechanism works in the same manner as the Sun City GSF mechanism and the reasons for retaining it are the same. Please see my testimony above for the reasoning in retaining the Paradise Valley CAP Surcharge mechanism.

Q. IF THE COMMISSION DISALLOWS THE PARADISE VALLEY CAP SURCHARGE MECHANISM SHOULD IT USE RUCO'S ADJUSTMENT?

A. No. Mr. Michlik makes an adjustment of $133,345 in CAP-related expenses, one which is based on 2013 costs. This estimate is inconsistent with his proposal of calculating CAP expense in prior cases.[4] It is now 2015 and the Company is currently paying higher known and measurable costs. Further, CAP is again publishing advisory rates. While the Company firmly disagrees with Mr. Michlik's proposed methodology[5] of averaging published CAP advisory rates and continues to strongly support the continued use of the surcharge mechanism, I have worked through his methodology to arrive at a correct CAP expense of $588,042 (attached as Exhibit JCL – 2).

Q. DID COMMISSION STAFF HAVE AN OPINION REGARDING THE PARADISE VALLEY WATER DISTRICT'S CAP SURCHARGE MECHANISM?

[4] Direct testimony of Mr. Michlik, Docket No. W-02113A-13-0118, at 49–50.
[5] *Id.*

A. Yes. ACC Staff recognized that "the cost of CAP water changes every year. Staff believes it is more appropriate to keep the surcharge the way it is, i.e., retaining the CAP surcharge for the Paradise Valley Water District."

V. COMPLIANCE WITH PRIOR COMMISSION DECISIONS

Q. IT APPEARS THAT RUCO'S RECOMMENDATION AGAINST BOTH OF THESE SURCHARGES IS BASED IN PART ON THE COMPANY'S COMPLIANCE WITH PRIOR COMMISSION DECISIONS. PLEASE EXPLAIN.

A. In my Direct Testimony, I explained the Company's failure to file adjustments to the GSF and CAP surcharge mechanisms, which led to the Commission's issuance of Decision Nos. 72046 and 71481. For both the GSF and the CAP surcharges, EWAZ has improved its process for calculating and filing the annual adjustment to the surcharge, and has made the filings on time each year since the issuance of Decisions No. 72046 and 71841, both of which the Commission issued in 2010. The Company takes these compliance issues very seriously. Although the Commission did order the Company to include a proposal to include these costs in base rates, the Company is asking the Commission to allow the Company to continue these surcharges given the many benefits of continuing these surcharges and the issues with including these costs in base rates, both of which are discussed in detail in my Direct Testimony. Since the issuance of Decision Nos. 72046 and 71841, CAP rates have continued to increase and the Commission's policy in favor of the use of these surcharges has become more certain. As such, the Company is requesting that the Commission allow the Company to continue these surcharges, which is good public policy. Commission Staff, which made the initial recommendations adopted by the Commission in Decision Nos. 72046 and 71841, in apparent recognition of the change in circumstances and the policy reasons in favor of

these surcharges, has recommended a continuation of these surcharges as part of its Direct Testimony.

As noted above, if these expenses are to be included in base rates, the amounts set forth in Exhibit JCL-2 should be utilized.

Q. STAFF INDICATES IN ITS TESTIMONY THAT THE NON-COMPLIANCE ISSUE NEEDS TO BE ADDRESSED. WHAT IS THE COMPANY'S POSITION?

A. The Company will of course abide by the Commission's decision in relation to compliance. However, the Company has been very forthcoming about the issues surrounding its recommendations in this case in relation to the GSF surcharge and the CAP surcharge. Although the Company does not support the inclusion of these amounts as part of base rates, the Company has provided a corrected figure as part of Exhibit JCL-2. The Company takes compliance very seriously and has put processes in place to ensure that the issues that led to the prior non-compliance will not occur again.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

EXHIBIT JCL – 1R

CENTRAL ARIZONA PROJECT
FINAL 2015-2016 RATE SCHEDULE

DELIVERY RATES FOR VARIOUS CLASSES OF WATER SERVICE

Units = $/ acre-foot

(The Letter Designations in the Formulas Refer to the Rate Components Shown Below)

	2014	Firm 2015	Provisional 2016	Advisory 2017	Advisory 2018	Advisory 2019	Advisory 2020
Municipal and Industrial							
Long Term Subcontract (B+C) [1]	$ 146	$ 157	$ 161	$ 166	$ 171	$ 174	$ 196
Non-Subcontract (A+B+C)[2]	166	179	184	190	196	199	221
Recharge (A+B+C) [3]	166	179	184	190	196	199	221
AWBA Interstate Recharge (A+B+C+D) [4]	189	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Federal (B+C)[5]	$ 146	$ 157	$ 161	$ 166	$ 171	$ 174	$ 196
Agricultural							
Settlement Pool (C) [6]	$ 67	$ 75	$ 76	$ 79	$ 81	$ 82	$ 99
Agricultural Incentives [6]							
Meet Settlement Pool Goals	(14)	(18)	(15)	(14)	(12)	(9)	(22)
Meet AWBA/CAGRD GSF Goals	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Meet Recovery Goals	(2)	(2)	(2)	(2)	(2)	(2)	(2)

RATE COMPONENTS

Units = $/acre-foot

	2014	Firm 2015	Provisional 2016	Advisory 2017	Advisory 2018	Advisory 2019	Advisory 2020
Capital Charges							
(A) Municipal and Industrial - Long Term Subcontract [7]	$ 20	$ 22	$ 23	$ 24	$ 25	$ 25	$ 25
Delivery Charges							
(B) Fixed OM&R [8]	$ 79	$ 82	$ 85	$ 87	$ 90	$ 92	$ 97
(C) Pumping Energy Rate 1 [9]	67	75	76	79	81	82	99
(D) Property Tax Equivalency [10]	23	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.

DIRECT UNDERGROUND WATER STORAGE

Units = $/acre-foot

	2014	Firm 2015	Provisional 2016	Advisory 2017	Advisory 2018	Advisory 2019	Advisory 2020
Underground Water Storage O&M [11]							
Phoenix AMA	$ 8	$ 9	$ 10	$ 12	$ 13	$ 14	$ 15
Tucson AMA	15	15	15	15	15	15	15
Underground Water Storage Capital Charge [12]							
Phoenix AMA	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15
Tucson AMA	9	9	9	9	9	9	9

CENTRAL ARIZONA PROJECT
FINAL 2015-2016 RATE SCHEDULE

NOTES:

1) Long-Term Municipal and Industrial (M&I) Subcontract include those users that hold a M&I subcontract.
2) Non-Subcontract includes M&I users that are taking water under an agreement other than a subcontract and may also be referred to as "Excess" water. It is administered according to CAP's Access to Excess policy.
3) Recharge includes the Arizona Water Banking Authority, CAGRD, BOR and M&I subcontract holders and other Arizona entities who have valid Arizona Department of Water Resources water storage permits and accrue long-term storage credits. It is administered according to CAP's Access to Excess policy.
4) The AWBA Interstate Recharge rate is currently not published (n.p.) and will be provided upon request as there is not any anticipation of water available for this class.
5) Federal water may also be referred to as "Indian" water.
6) Rate is the Pumping Energy Rate 1 component. Incentives may be earned for meeting delivery goals in three areas. Any incentives earned are applied to Settlement Pool deliveries.
7) For M&I subcontract water, the Capital Charge is paid on full allocation regardless of amount delivered and not included in delivery rates.
8) Fixed O&M costs divided by projected total water volumes plus components to fund capital replacements and a rate stabilization reserve. This amount is collected on all ordered water whether delivered or not.
9) The energy rate applies to all actual water volumes as opposed to scheduled. The calculation is pumping energy costs divided by projected volumes.
10) The rate is based upon the tax levy for the previous elapsed tax year divided by the average water deliveries (excluding Federal deliveries and water storage credits) for the three previous completed delivery years (e.g., for 2012, the tax equivalency is the levy for the 2010-2011 tax year divided by the average water deliveries for 2008, 2009 and 2010). This rate is currently not published (n.p.) and is available upon request, although it is not anticipated there will be water available for this class.
11) Underground Water Storage O&M is paid by all direct recharge customers using CAP recharge sites.
12) Underground Water Storage Capital Charge is paid by all direct recharge customers except AWBA for M&I firming, the CAGRD, municipal providers within the CAP service area and co-owners of CAWCD recharge facilities using no more than their share of capacity.

EXHIBIT JCL – 2R

EPCOR Water Arizona
Docket No. WS-01303A-14-0010

Exhibit JCL-2R

Projected CAP-Related Expense

Projected CAP and MWD Rates

1	Year	**2016**	**2017**	**2018**	**2019**	**2020**
2	M&I*	$ 161	$ 166	$ 171	$ 174	$ 196
3	Capital*	$ 23	$ 24	$ 25	$ 25	$ 25
4	MWD Credit	$ (16)	$ (16)	$ (16)	$ (16)	$ (16)
5	Total Expense per Acre Foot	$ 168	$ 174	$ 180	$ 183	$ 205
6						
7						
8	**Sun City Projected Expense**					
9	CAP Allocation (in Acre Feet)	4,189	4,189	4,189	4,189	4,189
10	Projected CAP-Related Expense	$ 703,752	$ 728,886	$ 754,020	$ 766,587	$ 858,745
11						
12	Five Year Average CAP-Related Expense	$ 762,398				
13						
14						
15	**Paradise Valley Projected Expense**					
16	CAP Allocation (in Acre Feet)	3,231	3,231	3,231	3,231	3,231
17	Projected CAP-Related Expense	$ 542,808	$ 562,194	$ 581,580	$ 591,273	$ 662,355
18						
19	Five Year Average CAP-Related Expense	$ 588,042				

* From the CAP rate schedule attached to testimony as Exhibit JCL-1

Additional Calculation Notes

Line 5 equals the sum of lines 2, 3 and 4.

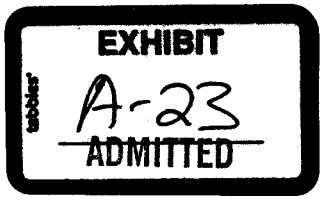
Lines 9 and 16 are the CAP allocations for the Sun City and Paradise Valley districts respectively

Line 10 equals the product of lines 5 and 9

Line 12 equals the average of values in line 10

Line 17 equals the product of lines 5 and 16

Line 19 equals the average of values in line 17



BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS

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

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

REJOINDER TESTIMONY
OF
JAKE LENDERKING
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
MARCH 5, 2015

REJOINDER TESTIMONY
OF
JAKE LENDERKING
ON BEHALF OF
EPCOR WATER ARIZONA, INC.
MARCH 5, 2015

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I. INTRODUCTION AND QUALIFICATIONS **1**
II. PURPOSE OF TESTIMONY **1**
III. RESPONSE TO RUCO **1**

EXECUTIVE SUMMARY

Jake Lenderking responds to the surrebuttal testimony of Mr. Michlik on behalf of RUCO. In his rejoinder testimony, Mr. Lenderking confirms the Company did credit back prior amounts related to the Sun City GSF Surcharge and the Paradise Valley CAP Surcharge. Mr. Lenderking also explains that the Company did not charge improper amounts as alleged by Mr. Michlik.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND TELEPHONE NUMBER.

A. My name is Jake Lenderking. My business address is 2355 W Pinnacle Peak Road, Suite 300, Phoenix, Arizona 85027, and my business phone is (623) 445-2410.

Q. ARE YOU THE SAME JAKE LENDERKING WHO PROVIDED DIRECT AND REBUTTAL TESTIMONY IN THIS MATTER?

A. Yes.

II. PURPOSE OF TESTIMONY

Q. **PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.**

A. The purpose of my Rejoinder Testimony is to respond to the surrebuttal testimony of the Residential Utility Consumer Office ("RUCO") on the issue of the Company's Central Arizona Project ("CAP") Surcharge in the Paradise Valley Water District and the Groundwater Savings Fee ("GSF") Surcharge in the Sun City Water District.

III. RESPONSE TO RUCO

Q. IN HIS SURREBUTTAL TESTIMONY, MR. MICHLIK CONTINUES TO RECOMMEND THAT THE COMMISSION NOT ALLOW THE COMPANY TO RETAIN ITS CAP SURCHARGE AND GSF SURCHARGE IN THE PARADISE VALLEY WATER DISTRICT AND THE SUN CITY WATER DISTRICT, RESPECTIVELY. HOW DOES THE COMPANY RESPOND?

A. Mr. Michlik continues to make the same arguments relating to prior Commission decisions on those issues and the Company's compliance with those decisions. I have addressed those arguments in detail in my direct testimony and my rebuttal testimony and continue to rely on those responses.

Q. MR. MICHLIK ALSO QUESTIONS WHETHER THE COMPANY REFUNDED CERTAIN AMOUNTS IN RELATION TO THOSE SURCHARGES. HOW DO YOU RESPOND?

A. Mr. Michlik selectively picks excerpts from documents from 2010 relating to the Sun City GSF Surcharge and the Paradise Valley CAP Surcharge to further his argument for removal of these surcharges. His selection and inclusion in his testimony[1] of an excerpt from a Staff memo dated November 17, 2010 is a prime example. He only cites the over-collection amount stated in the memo but fails to quote or discuss any other surcharge filings nor does he discuss any other portions of the memo. .

Q. PLEASE EXPLAIN THE BASIS OF THE MEMO.

A. The Staff memo was in response to the Company's September 24, 2010 filing to review and adjust the surcharge. The Company's filing, as made clear in the Staff memo, requested to credit customers for the over-collected amounts. In brief, the Company requested to reduce customers' bills due to the over collection.

Q. DID THE COMMISSION APPROVE THE COMPANY'S REQUEST?

A. Yes. Exhibit JCL-1RJ contains the order for the surcharge credit as requested by the Company and recommended by Staff.

[1] Michlik Surrebuttal testimony page 10 and Attachment B

Q. DID THE COMPANY FOLLOW THOUGH AND REFUND THE APPROPRIATE AMOUNT PER ITS REQUEST AND THE COMMISSION'S ORDER?

A. Yes. Over the course of the following year, the Company applied the credit set forth in the approved tariff contained in Exhibit JCL-2RJ and appropriately refunded customers.

Q. MR. MICHLIK ALSO IMPLIES THAT YOU INTENTIONALLY LEFT OUT A CONCERN THAT STAFF HAD ABOUT THE INCLUSION OF CHARGES THAT WERE NOT AUTHORIZED IN THE PARADISE VALLEY CAP SURCHARGE. HOW DO YOU RESPOND?

A. Mr. Michlik again uses an excerpt from a Staff memo. In this particular instance, Mr. Michlik references a Staff concern from a memo dated April 30, 2010 and attached it to his testimony.[2] During the April 2010 timeframe, Staff raised concerns about charges related to the transfer of certain power costs to base rates and related to storing CAP water at the Central Arizona Water Conservation District's Tonopah Desert Recharge Facility. The Company accepted Staff's position with regard to power costs at that time, so those amounts were never charged to customers. In addition, at that time, Staff believed that the charges related to storing water at the Tonopah Desert Recharge Facility were not authorized.

Q. WERE THE CHARGES RELATED TO THE TONOPAH RECHARGE FACILITY PREVIOUSLY AUTHORIZED?

A. Yes. Decision No. 71410 (issued December 8, 2009) clearly approved the charges and other changes to the Paradise Valley CAP Surcharge in relation to the Company's discontinuance of the exchange of its CAP water for the use of the Salt River Project

[2] Michlik Surrebuttal testimony page 10 and Attachment A

("SRP") well known as PCX-1. The below excerpt from the Decision clearly explains the approved change:

> [...] The Company is no longer exchanging its 3,231 Paradise Valley Water district CAP allocation with SRP for use of the PCX-1 well. Instead, the Company is currently recharging the district's CAP allocation at the Tonopah Desert Recharge Project, which is owned by the Central Arizona Water Conservation District ("CAWCD") at a cost of $8 per acre foot, and recovering it from wells in the Paradise Valley Water district. [...] The Company's proposed change to the existing CAP Surcharge is reasonable and appropriate, and will be authorized.[3]

Staff ultimately recognized this previous approval and the charges were included in the calculations in the tariff authorized by Decision No. 72208 (issued March 3, 2011). A note recognizing their inclusion is present on the tariff attached as Exhibit JCL-3RJ. There were no unauthorized charges included in the Paradise Valley CAP Surcharge as Mr. Michlik alleges in his surrebuttal testimony. There were electrical expense savings associated with using the PCX-1 well that were no longer realized when the Company discontinued the exchange of its CAP water for the use of the PCX-1 well. These imputed savings remained in the Paradise Valley CAP Surcharge calculation because it was not transparent in Decision No. 71410 that they should be eliminated from the calculation. The Power Cost Savings reduction to the Paradise Valley CAP Surcharge has persisted in the CAP surcharge costing the Company $1,075,350 over the last six years. Additional details related to this item can be found in my direct testimony.

[3] Decision no. 71410 page 58

Q. **DOES YOUR SILENCE ON ANY ISSUE RAISED BY ANY PARTY IN THEIR SURREBUTTAL TESTIMONY INDICATE YOUR ACCEPTANCE OF THEIR POSITION?**

A. No.

Q. DOES THIS CONCLUDE YOUR REJOINDER TESTIMONY?

A. Yes.

0000121101

BEFORE THE ARIZONA CORPORATION COMMISSION

KRISTIN K. MAYES
Chairman
GARY PIERCE
Commissioner
PAUL NEWMAN
Commissioner
SANDRA D. KENNEDY
Commissioner
BOB STUMP
Commissioner

Arizona Corporation Commission
DOCKETED
DEC 10 2010
DOCKETED BY

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY – AN ARIZONA CORPORATION, FOR ADJUSTMENTS TO ITS GROUNDWATER SAVINGS FEE FOR UTILITY SERVICE IN ITS SUN CITY WATER DISTRICT AND ITS SUN CITY WEST WATER DISTRICT

DOCKET NO. W-01656A-98-0577
WS-02334A-98-0577

DECISION NO. 72046

ORDER

Open Meeting
December 6, 2010
Phoenix, Arizona

BY THE COMMISSION:

Introduction

1. Pursuant to Decision No. 62293, Arizona-American Water Company ("Az-Am" or "Company") filed an application on September 24, 2010, with the Arizona Corporation Commission ("Commission") revising its Groundwater Savings Fee ("GSF") surcharge rate. The GSF surcharge rate requested for the Sun City Water District is a credit of ($0.8325) per household per month for residential customers and a credit of ($0.0590) per 1,000 gallons for all usage for commercial, public authority, and irrigation customers. The GSF surcharge rate requested for the Sun City West Water District is a credit of ($0.1245) per household per month for residential customers and a credit of ($0.0131) per 1,000 gallons for all usage for commercial customers. These amounts are to be effective as of November 1, 2010, and run for one year to offset the over-

. . .

collected balances that have accumulated less the estimated Central Arizona Project ("CAP") 2011 costs.

2. The Sun City Water District over-collection amounts to $710,046 (as of August 2010) and is offset by its 2011 estimated CAP costs of $337,913 resulting in an estimated over-collected balance of $372,133 that the requested GSF credit is intended to cover. The Sun City West Water District over-collection amounts to $228,079 (as of August 2010) and is offset by its 2011 estimated CAP costs of $191,341 resulting in an estimated over-collected balance of $36,738 that the requested GSF credit is intended to cover.

3. The current GSF surcharge for the Sun City Water District is $1.565 per household per month for residential customers and $0.1192 per 1,000 gallons for all usage for all users other than residential. The current GSF surcharge for the Sun City West Water District is $1.5958 per household per month for residential customers and $0.1740 per 1,000 gallons for all usage for all users other than residential. These current rates have been in effect since December 1, 2005. Although Decision No. 62293 indicated that the Company was to file an annual revision/update of the GSF surcharge by November 1, of each year to become effective the following December 1, the Company failed to revise the GSF surcharge since November 1, 2005, resulting in the current rate effective December 1, 2005.

Background

4. On October 1, 1998, Az-Am filed with the Commission an application for approval of a CAP water utilization plan, authorization of a groundwater savings fee, and recovery of CAP expenses. Decision No. 62293 authorized the current calculation methodology which allows the Company to collect its current CAP capital and delivery charges and offsets those expenses with groundwater replenishment credits. For the first five years of the GSF surcharge there was an additional charge attributed to deferred CAP charges. These deferred charges, having now been fully collected, are no longer a component of the current GSF surcharge calculation.

5. The Commission established the GSF surcharge to aid the Company in its efforts to utilize renewable sources of water and minimize its use of ground water.

. . .

Calculation of CAP Surcharge

6. The Company was to file annual revisions/updates of the GSF surcharge and did so regularly for the first five years. However, the Company has failed to file an update of the GSF surcharge since November 1, 2005, resulting in the previously described over-collections.

7. The Company's application indicates that the requested GSF surcharge credit rates should eliminate (or substantially reduce) the over-collected balances within a 12-month period. The Company requests that the new surcharge credit rates become effective November 1, 2010.

8. Staff finds the Company's requested GSF surcharge credit rates acceptable. All residential customers in the Sun City Water District will experience a $2.3975 reduction in their monthly bill. All residential customers in the Sun City West Water District will experience a $1.7203 reduction in their monthly bill.

9. Staff believes that, in its next rate application filed for the Sun City Water District and the Sun City West Water District, the Company should include the CAP capital and delivery charges and the offsetting replenishment credits in its costs included in its base rates, thereby eliminating the need for the GSF surcharge in the future.

10. The Company's requested GSF surcharge credit rates are reasonable and should be authorized to become effective November 1, 2010.

11. Staff's recommendation that the Company incorporate, in its next applications filed for the Sun City Water District and the Sun City West Water District, a description of how to include in base rates the CAP capital and delivery charges along with the offsetting replenishment credits and the elimination of the GSF surcharge is reasonable and should be adopted.

12. To facilitate the Company's annual revision of its GSF surcharge, we conclude that the Company should file its annual revision by January 31 of each future year beginning in 2012, with an effective date for the revised tariff of the following March 1. The Commission recently approved this same annual revision dating for the Company's Paradise Valley Water District CAP surcharge adjustor mechanism in Decision No. 71841, August 10, 2010. The annual filings should continue until such time as the Company files its next rate case for the Sun City Water District and the Sun City West Water District.

CONCLUSIONS OF LAW

1. The Company is a public service corporation within the meaning of Article XV of the Arizona Constitution and A.R.S. §§ 40-250 and 40-252.

2. The Commission has jurisdiction over the Company and of the subject matter of the application.

3. Approval of a GSF surcharge is consistent with the Commission's authority under the Arizona Constitution, Arizona statutes, and applicable case law.

4. It is in the public interest to approve the Company's request for implementation of the GSF surcharge as discussed herein.

ORDER

IT IS THEREFORE ORDERED that the application by Arizona-American Water Company for the implementation of its GSF surcharge is approved as discussed herein.

IT IS FURTHER ORDERED that Arizona-American Water Company shall file a revised GSF surcharge tariff as discussed herein within 15 days of the effective date of this Decision.

IT IS FURTHER ORDERED that Arizona-American Water Company shall notify its customers of the revised CAP surcharge tariff approved herein by December 15, 2010.

IT IS FURTHER ORDERED that Arizona-American Water Company shall file its annual revision of the GSF surcharge with the Commission no later than January 31 of each future year beginning in 2012, with an effective date of the following March 1. The filings shall continue until further order of the Commission.

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IT IS FURTHER ORDERED that Arizona-American Water Company shall incorporate, in its next applications filed for the Sun City Water District and the Sun City West Water District, a description of how to include in base rates the CAP capital and delivery charges along with the offsetting replenishment credits and the elimination of the GSF surcharge.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN COMMISSIONER

COMMISSIONER COMMISSIONER COMMISSIONER

IN WITNESS WHEREOF, I, ERNEST G. JOHNSON, Executive Director 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 16th day of December, 2010.

ERNEST G. JOHNSON
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

SMO:DWC:lhm\JFW

SERVICE LIST FOR: Arizona-American Water Company
DOCKET NO. W-01656A-98-0577

Mr. Thomas Broderick
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Ms. Janice M. Alward
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Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

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BEFORE THE ARIZONA CORPORATION COMMISSION

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AZ CORP COMMISSION
DOCKET CONTROL

COMMISSIONERS

KRISTIN K. MAYES, Chairman
GARY PIERCE
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY – AN ARIZONA CORPORATION, FOR ADJUSTMENTS TO ITS GROUNDWATER SAVINGS FEE FOR UTILITY SERVICE IN ITS SUN CITY WATER DISTRICT AND ITS SUN CITY WEST WATER DISTRICT	DOCKET NO. W-01656A-98-0577 WS-02334A-98-0577 DECISION NO. 72046 NOTICE OF COMPLIANCE FILING

Decision No. 72046, issued on December 10, 2010, approved the application by the Company for the implementation of its GSF surcharge. In compliance with this decision, 1) the Company notified customers in the Sun City and Sun City West water districts of the revised GSF surcharge via bill text messages which started November 1, 2010 and will run for 60 days, and 2) attached are revised the GSF surcharge tariffs for both districts.

RESPECTFULLY SUBMITTED on December 20, 2010.

Sandra L. Murrey
Regulatory Analyst
Arizona-American Water
2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027
Sandra.Murrey@amwater.com
623-445-2490

Arizona Corporation Commission
DOCKETED
DEC 20 2010
DOCKETED BY

Original and 13 copies **filed**
on December 20, 2010, with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Copies of the foregoing **emailed**
on December 20 2010 to:

Brian K. Bozzo
Compliance and Enforcement Manager
Utilities Division
1200 West Washington Street
Phoenix, AZ 85007

CONCLUSIONS OF LAW

1. The Company is a public service corporation within the meaning of Article XV of the Arizona Constitution and A.R.S. §§ 40-250 and 40-252.

2. The Commission has jurisdiction over the Company and of the subject matter of the application.

3. Approval of a GSF surcharge is consistent with the Commission's authority under the Arizona Constitution, Arizona statutes, and applicable case law.

4. It is in the public interest to approve the Company's request for implementation of the GSF surcharge as discussed herein.

ORDER

IT IS THEREFORE ORDERED that the application by Arizona-American Water Company for the implementation of its GSF surcharge is approved as discussed herein.

IT IS FURTHER ORDERED that Arizona-American Water Company shall file a revised GSF surcharge tariff as discussed herein within 15 days of the effective date of this Decision.

IT IS FURTHER ORDERED that Arizona-American Water Company shall notify its customers of the revised CAP surcharge tariff approved herein by December 15, 2010.

IT IS FURTHER ORDERED that Arizona-American Water Company shall file its annual revision of the GSF surcharge with the Commission no later than January 31 of each future year beginning in 2012, with an effective date of the following March 1. The filings shall continue until further order of the Commission.

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		6th Revised	SHEET NO.	8
Arizona-American Water Company	CANCELING	5th Revised	SHEET NO.	8

(Name of Company)

Sun City Water District
(Name of Service Area)

Groundwater Savings Fee GSF - 1

Applicability

Applicable to all customers of this District receiving service under General Water Rate G-1, Irrigation Water Rate I–1 or Public Interruptible Water Service Rate PIR-1.

Residential Users	Deferred Costs	Annual Costs	Total Charge
Flat Rate per unit per month	$0.00	($0.8325)	($0.8325) *

* Rate consists of ($1.6178) per unit to refund the over collection of prior years' surcharge and $0.7853 per unit for the collection of current annual CAP charges.

Other Users	Deferred Costs	Annual Costs	Total Charge
All Usage per 1,000 gallons per month	$0.00	($0.0590)	($0.0590) **

** Rate consists of ($0.1146) per 1,000 gallons of usage to refund the over collection of prior years' surcharge and $0.0556 per 1,000 gallons of usage for the collection of current annual CAP charges.

Terms and Conditions

The Deferred Costs portion of the Groundwater Savings Fee shall be in effect for a sixty-month period from March 2000 through February 2005. The Annual Costs portion shall be adjusted each year to reflect current actual CAP costs.

Over–Recovery of Deferred Costs Portion of Groundwater Savings Fee

The Deferred Costs portions of the Groundwater Savings Fee for Sun City Water District were developed, based on a revenue-requirement analysis, to recover the following amounts:

Residential customers	$11,513 X 60 months = $690,780
Commercial customers	$ 3,023 X 60 months = $181,380
Total	$872,160

(Continued on Sheet 8a)

ISSUED	December	10	2010	EFFECTIVE	November	1	2010
	Month	Day	Year		Month	Day	Year

12/17/2010

ISSUED BY Thomas M. Broderick, Director, Rates & Regulation

2355 W. Pinnacle Peak Road, Suite 300, Phoenix, Arizona 85027
Decision No. 72046

Arizona-American Water Company (Name of Company)	CANCELING	6th Revised	SHEET NO.	8a
		5th Revised	SHEET NO.	8a

Sun City Water District
(Name of Service Area)

Groundwater Savings Fee GSF – 1 (cont.)

Terms and Conditions (cont'd)

Over-Recovery of Deferred Costs Portion of Groundwater Savings Fee

Sun City Water District will track the monthly revenues received in connection with the Deferred Costs portions of the Groundwater Savings Fee. At the end of the sixty-month collection period, the cumulative total received will be compared with the $872,160 computed above. To the extent a surplus has been recovered, that amount will be placed into an appropriate regulatory liability account on Arizona-American Water Company's balance sheet for future regulatory disposition, and the Company, by letter, will appropriately notify the Director of Utilities. Should the cumulative surcharge revenues be less than the amounts identified above, Arizona-American Water Company will absorb the deficiency.

Annual Adjustment of Annual Costs Portion of Groundwater Savings Fee

Following the close of each calendar year, Arizona-American Water Company will compute the revenues received from the Annual Costs portion of the Groundwater Savings Fee during the previous twelve months and compare the total with the actual payments made for CAP water during the same period. Any surplus or deficit relating to differences between estimated and actual customers, sales, or CAP payments will be included in the computation of the new Annual Costs portion of the Groundwater Savings Fee for the coming year, beginning with customer billings each March 1st. The new rates will be developed as follows:

	Surcharge revenues during the preceding calendar year.
-	Actual CAP payments (including MWD credits) applicable to preceding year
=	(+) surplus or (-) deficit
+	Estimated CAP payments for coming year (M&I + delivery – MWD credits)
=	Total target amount to recover during the coming March – February

The above computed target amount will be allocated between residential and commercial customers on the basis of usage projected for the future March - February period. Residential customers will be billed a fixed monthly surcharge based on projected customer bill numbers, with commercial customers billed on a per 1,000 gallon usage basis, based on consumption forecasted for the same March – February billing period.

All rates in this Schedule shall be subject to their proportionate part of any taxes or other governmental imposts that are assessed directly or indirectly on the basis of revenues derived from this Schedule.

Arizona-American Water Company	CANCELING	6th Revised	SHEET NO.	8
(Name of Company)		5th Revised	SHEET NO.	8

Sun City West Water District
(Name of Service Area)

Groundwater Savings Fee GSF - 1

Applicability

Applicable to all customers of this District receiving service under General Water Rate G-1 or Construction Water Service CW-1.

Residential Users	Deferred Costs	Annual Costs	Total Charge
Flat Rate per unit per month	$0.00	($0.1245)	($0.1245) *

* Rate consists of ($.9536) per unit to refund the over collection of prior years' surcharge and $0.8291 per unit for the collection of current annual CAP charges.

Other Users	Deferred Costs	Annual Costs	Total Charge
All Usage per 1,000 gallons per month	$0.00	($0.0131)	($0.0131) **

**Rate consists of ($.1006) per 1,000 gallons of usage to refund the over collection of prior years' surcharge and $.0875 per 1,000 gallons of usage for the current annual CAP Charges.

Terms and Conditions

The Deferred Costs portion of the Groundwater Savings Fee shall be in effect for a sixty-month period from March 2000 through February 2005. The Annual Costs portion shall be adjusted each year to reflect current actual CAP costs.

Over – Recovery of Deferred Costs Portion of Groundwater Savings Fee

The Deferred Costs portions of the Groundwater Savings Fee for this District were developed, based on a revenue-requirement analysis, to recover the following amount:

Residential customers	$6,980 X 60 months =	$418,800
Commercial customers	$1,279 X 60 months =	$ 76,740
	Total	$495,540

(Continued on Sheet 8a)

Arizona-American Water Company	CANCELING	6th Revised	SHEET NO.	8a
(Name of Company)		5th Revised	SHEET NO.	8a

Sun City West Water District
(Name of Service Area)

Groundwater Savings Fee GSF-1 (cont.)

Terms and Conditions (cont'd)

Over-Recovery of Deferred Costs Portion of Groundwater Savings Fee

This District will track the monthly revenues received in connection with the Deferred Costs portions of the Groundwater Savings Fee. At the end of the sixty-month collection period, the cumulative total for this District will be compared with the $495,540 computed above. To the extent a surplus has been recovered, that amount will be placed into an appropriate regulatory liability account on this District's balance sheet for future regulatory disposition and the Director of Utilities will be appropriately notified by letter. Should the cumulative surcharge revenues be less than the amounts identified above, the deficiency will be absorbed by the Company.

Annual Adjustment of Annual Costs Portion of Groundwater Savings Fee

At the close of each calendar year, the Company will compute the surcharge revenues for ongoing CAP water costs billed and received during the previous twelve months and compare such total with the actual CAP water payments applicable to the same period. Any surplus or deficit relating to differences between estimated and actual customers, sales, or CAP payments will be included in the computation of the new Annual Costs portion of the Groundwater Savings Fee for the coming year, beginning with customer billings each March 1st. The new rates will be developed as follows:

	Surcharge revenues during the preceding calendar year.
-	Actual CAP payments (including MWD credits) applicable to preceding year
=	(+) surplus or (-) deficit
+	Estimated CAP payments for coming year (M&I + delivery – MWD credits)
=	Total target amount to recover during the coming March – February

The above computed target amount will be allocated between residential and commercial customers on the basis of usage projected for the future March - February period. Residential customers will be billed a fixed monthly surcharge based on projected customer bill numbers, with commercial customers billed on a per 1,000 gallon usage basis, based on consumption forecasted for the same March – February billing period.

All rates in this Schedule shall be subject to their proportionate part of any taxes or other governmental imposts which are assessed directly or indirectly on the basis of revenues derived from this Schedule.

Exhibit JCL -3RJ

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BEFORE THE ARIZONA CORPORATION CO

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AZ CORP COMMISSION
DOCKET CONTROL

COMMISSIONERS

GARY PIERCE, Chairman
PAUL NEWMAN
SANDRA D. KENNEDY
BOB STUMP
BRENDA BURNS

IN THE MATTER OF THE APPLICATION OF ARIZONA-AMERICAN WATER COMPANY, AN ARIZONA CORPORATION, FOR ADJUSTMENTS TO ITS RATES AND CHARGES FOR UTILITY SERVICE FOR ITS PARADISE VALLEY WATER DISTRICT	DOCKET NO. W-01303A-98-0507 NOTICE OF COMPLIANCE FILING

ARIZONA-AMERICAN WATER COMPANY
PARADISE VALLEY WATER DISTRICT
NOTICE OF FILING REVISED TARIFF

Decision No. 72208, issued on March 3, 2011, approved the application by the Company for the implementation of its Paradise Valley CAP surcharge. In compliance with this decision, 1) the Company notified customers in the Paradise Valley water district of the revised CAP surcharge via bill text messages which began March 1, 2011 and will run for 60 days, and 2) attached is the revised CAP surcharge tariff

RESPECTFULLY SUBMITTED on March 8, 2011.

Sandra L. Murrey

Sandra L. Murrey
Rates Analyst
Arizona-American Water Company
2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027
Office (623) 445-2420
Fax (623) 445-2451
Sandra.Murrey@amwater.com

Arizona Corporation Commission
DOCKETED
MAR 8 2011
DOCKETED BY

Original and 13 copies **filed**
on March 8, 2011, with:

Docket Control
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Copies of the foregoing **mailed**
on March 8, 2011, to:

Legal Division
Arizona Corporation Commission
1200 West Washington St.
Phoenix, Arizona 85007

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Director
Utilities Division
Arizona Corporation Commission
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Compliance and Enforcement Manager
Utilities Division
1200 West Washington St.
Phoenix, AZ 85007

By: Sandy Murray

		9th Revised	SHEET NO.	4
Arizona-American Water Company	Cancelling	8th Revised	SHEET NO	4
(Name of Company)	Paradise Valley Water District			
	(Name of Service Area)			

CAP SURCHARGE

APPLICABILITY

Applicable to all customers of Paradise Valley Water District except Sales for Resale.

TERRITORY

Portions of the City of Scottsdale and the Town of Paradise Valley, and vicinity, Maricopa County.

RATES

Surcharge Rate:

		Per Customer
Residential Customers:		
In excess of 45,000 gallons	$	0.2372 per 1,000 gallons *
All Non-Residential Customers except Sale for Resale Customers:		
For all usage	$	0.2372 per 1,000 gallons *

* Rate consists of $0.0726 per 1,000 gallons of usage to recover the under collection of prior years' surcharge and $0.1646 per 1,000 gallons of usage for the collection of current annual CAP charges.

SPECIAL CONDITIONS:

1. The Company is authorized to recover CAP related costs based on its CAP allocation of 3,231 AF.
2. Total annual CAP costs will be determined by summing: a) annual Municipal & Industrial (M & I) water service charges, b) monthly M & I operations, maintenance and replacement (OM&R) costs, c)Tonopah Desert Recharge Project costs, d) annual production cost savings, e) the overcollected or undercollected surcharge from the previous twelve months period, and f) amortization over 5 years of deferred CAP M & I water service capital charges.
3. The Company will annually file with the Commission by January 31 the proposed annual CAP surcharge for the current calendar year. The filing shall contain all documentation to support the proposed surcharge.
4. The annual CAP surcharge will be calculated based on the historic consumption of the applicable customers from the previous twelve months.
5. The revised CAP surcharge will be effective on March 1 of each year.
6. Total deferred CAP costs of $533,115 as of 12/31/99 will be amortized over a period of 5 years.
7. Collection of the CAP surcharge will not generate a positive operating income to Paradise Valley Water Company. It is intended only to recover CAP related costs.
8. The CAP surcharge will appear on each applicable customer bill as a separate charge.

ISSUED:	MAR 07, 2011		EFFECTIVE:	MAR 1, 2011
	Month Day Year			Month Day Year
	ISSUED BY:	Thomas M. Broderick, Director – Rates & Regulation		
		2355 W. Pinnacle Peak Rd., Suite 300, Phoenix, AZ 85027		
		Decision No. 72208		

4. It is in the public interest to approve the Company's request for implementation of the CAP surcharge as discussed herein.

ORDER

IT IS THEREFORE ORDERED that the application by Arizona-American Water Company for the implementation of its revised CAP surcharge is approved as discussed herein.

IT IS FURTHER ORDERED that Arizona-American Water Company shall file a revised CAP surcharge tariff showing both the $0.0726 and $0.1646 per 1,000 gallon surcharges effective March 1, 2011.

IT IS FURTHER ORDERED that Arizona-American Water Company shall notify its customers of the revised CAP surcharge tariff approved herein its March 2011 billing cycle.

IT IS FURTHER ORDERED that, should Arizona-American Water Company fail to timely file its annual CAP surcharge revision, it will not be allowed to collect any under-collection from a prior period or, if an over-collection occurs due to late or non-filing, it will immediately refund the over-collections, including appropriate interest to be determined by the Commission.

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IT IS FURTHER ORDERED that Arizona-American Water Company shall incorporate, in its next rate application filed for the Paradise Valley Water District, the inclusion in base rates of the CAP capital and delivery charges and the elimination of the CAP surcharge.

IT IS FURTHER ORDERED that this Decision shall become effective immediately.

BY THE ORDER OF THE ARIZONA CORPORATION COMMISSION

CHAIRMAN

EXCUSED
COMM. STUMP
COMMISSIONER

COMMISSIONER

COMMISSIONER

COMMISSIONER

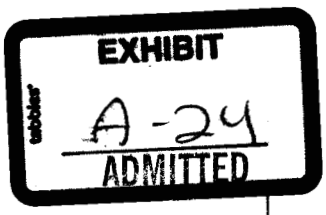
IN WITNESS WHEREOF, I, ERNEST G. JOHNSON, Executive Director of the Arizona Corporation Commission, have hereunto, set my hand and caused the official seal of this Commission to be affixed at the Capitol, in the City of Phoenix, this 3rd day of MARCH, 2011.

ERNEST G. JOHNSON
EXECUTIVE DIRECTOR

DISSENT: _____

DISSENT: _____

SMO:DWC:lhm\JFW



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 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

DIRECT TESTIMONY OF CANDACE COLEMAN, P.E.

March 7, 2014

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EXECUTIVE SUMMARY

Candace Coleman testifies that:

EPCOR Water Arizona Inc. ("EWAZ" or "Company") has requested a System Improvement Benefits (SIB) mechanism for its Mohave Water, Paradise Valley Water, and Sun City Water districts in order to facilitate the financing and replacement of aging infrastructure assets. This will ensure adequate and reliable water service while reducing large bill increases for ratepayers such as those that occur from infrequent and irregular rate case cycles.

The proposed SIBs contain criteria that have previously been adopted by the Commission for other similarly situated utilities.

The SIB for the Mohave Water District will include the replacement of mains, services, meters, and valves.

The SIB for the Paradise Valley Water District will include the replacement of mains, services, and valves.

The SIB for the Sun City Water District will include the replacement of mains, services, valves, and meters.

Detailed engineering reports, including costs estimates for all plant anticipated to be included in future SIB filings, have also been prepared to support the SIB.

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND TELEPHONE NUMBER.

A. My name is Candace Coleman. My business address is 2355 W Pinnacle Peak Rd., Suite 300, Phoenix, Arizona 85027, and my business phone is (623) 445-2498.

Q. IN WHAT CAPACITY AND BY WHOM ARE YOU EMPLOYED?

A. I am employed by EPCOR Water USA ("EWUS" or "Company") as an Engineer in the Planning Department.

Q. PLEASE DESCRIBE YOUR PRIMARY JOB RESPONSIBILITIES.

A. I am responsible for the planning for EPCOR Water Arizona Inc. ("EWAZ" or "Company") and EPCOR Water New Mexico Inc. ("EWNM") which includes water and wastewater systems throughout Arizona and New Mexico. My job includes developing comprehensive planning studies, creating and utilizing hydraulic models for distribution system analyses, and identifying potential system deficiencies caused by issues such as aging infrastructure and water quality.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EDUCATION.

A. I graduated from the University of California at Berkeley with a Bachelor of Science degree in Chemical Engineering. I am a Registered Professional Engineer in Arizona. I joined EWUS (then Arizona-American Water Company) in 2006. Before joining EWUS, I was employed by ATC Associates, where I worked as an environmental engineer and was responsible for managing several underground storage tank remediation projects. Prior to working for ATC Associates, I was employed by Baker Petrolite as a chemical engineer managing chemical application accounts for Shell Oil and Conoco Phillips.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes.

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

A. The purpose of my testimony in this case is to support the Company's request for a System Improvement Benefits ("SIB") surcharge mechanism for EWAZ's Mohave Water, Paradise Valley Water, and Sun City Water districts. EWAZ has modeled its SIBs for those districts consistent with the SIB first approved by the Commission for Arizona Water Company ("AWC") in Decision No. 73938 (June 27, 2013).

Q. WHAT IS A SIB?

A. The SIB is a surcharge mechanism that promotes rate gradualism by providing timely recovery of annual capital expenditures to replace certain water and wastewater infrastructure. For the Mohave Water, Paradise Valley Water, and Sun City Water districts, EWAZ anticipates that about $28 million of distribution system improvements are needed to ensure continued system reliability. If EWAZ funded those necessary replacement costs and then sought rate treatment in the ordinary course of business, customers would face substantial rate increases to provide the necessary returns on the plant replacements. As recognized by the Commission in Decision No. 73938, the SIB mechanism allows for more gradual rate changes while enabling utilities to raise the funds they need. Put simply, the SIB mechanism will ensure that these necessary investments occur and customers are protected through the various safeguards contained in the SIB Plans of Administration that will be completed after a final decision in this case is issued.

II. SYSTEM IMPROVEMENT BENEFITS ("SIB") MECHANISM

Q. WHY IS EWAZ REQUESTING SIB MECHANISMS FOR THREE OF ITS DISTRICTS IN THIS PROCEEDING?

A. EPCOR is requesting a SIB mechanism to enable EWAZ to meet the challenge of replacing aging and failing infrastructure. A SIB results in more gradual rate increases, which increases the time between rate cases and reduces their complexity. This will help to keep EWAZ financially healthy, in turn, enabling it to attract the capital it needs to continue to provide safe and reliable water service. It benefits the customers by reducing the magnitude of increases in their bills following rate cases while investing in plant and facilities to continue to maintain and improve the performance of the water systems. A SIB will allow the Company to specifically target aging and failing infrastructure, which has the potential to be a significant burden on customers in the future, especially if action to replace infrastructure is not taken now.

Q. IN WHICH DOCKET DID THE SPECIFICS OF THE SIB MECHANISM ARISE?

A. Currently, the specific details for that mechanism are set forth in a Settlement Agreement docketed on April 1, 2013 in Phase 2 of Arizona Water Company's Docket No. W-01445A-11-0310 ("AWC Settlement Agreement"). EWAZ intervened and participated in Phase 2 and was a signatory to the AWC Settlement Agreement.

Q. WHAT ARE THE INFORMATION REQUIREMENTS SET FORTH IN THE ARIZONA WATER SETTLEMENT AGREEMENT WHEN FILING FOR A SIB MECHANISM IN A GENERAL RATE CASE?

A. In addition to making a request for the SIB mechanism, the Company must also provide a list of SIB-eligible projects and an estimation of the capital costs for each

project. As detailed in the AWC Settlement Agreement, the Commission-approved projects that will ultimately be included in any resulting SIB surcharge must be completed and placed in service prior to the applicable surcharge taking effect.

Q. PLEASE SUMMARIZE THESE CRITERIA.

A. In the AWC Settlement Agreement, guidelines and requirements were set forth for the continued development of the SIB mechanism. A SIB is intended for projects that are necessary to provide proper, adequate, and reliable service to existing customers and is not intended to serve or promote customer growth. SIB surcharge filings are to occur once per year, with no more than five filings between rate cases. Projects eligible for SIB treatment must be replacement projects. Additionally, each project must satisfy at least one of the following criteria:

- system water loss exceeds 10%;
- assets have remained in service beyond their useful service lives;
- other engineering, operational, or financial reason justifies replacement, such as assets experiencing increasing numbers of failures and repairs and meters replaced under a testing and maintenance program; or
- assets required to be moved, replaced, or abandoned by a government agency.

Q. WHAT TYPES OF QUALIFYING PROJECTS IS EWAZ PROPOSING IN THIS CASE?

A. The Company is proposing capital projects related to the following categories for inclusion in a water distribution SIB Mechanism:

NARUC #	Description
331	Transmission & Distribution Mains and Valves
333	Services
334	Meters

Q. WHY DOES EPCOR WISH TO IMPLEMENT SIB MECHANISMS FOR THE MOHAVE WATER, PARADISE VALLEY WATER, AND SUN CITY WATER DISTRICTS?

A. Because EWAZ is committed to delivering high quality and reliable water service to its customers. With the considerable number of customers we serve and facilities we operate, this commitment requires high levels of infrastructure replacement. Water utility infrastructure, or any infrastructure for that matter, requires a continuous replacement program as the assets age. Oftentimes, assets are replaced on a reactive basis only after they have failed. Without a proper annual asset replacement program, water systems become inefficient and begin to fail, and replacement costs are pushed down the road at ever increasing costs. The approval of a SIB by the Commission showed recognition of the important value of this mechanism to address replacements; a step towards breaking this cycle.

In our case, the Mohave Water, Paradise Valley Water, and Sun City Water districts each require investment in infrastructure as many assets are nearing or have surpassed their useful lifetimes. The end of an asset's useful life is when it is considered economically efficient to replace it; that is to say, at the time when the asset is no longer able to provide adequate service and is costly to operate and maintain. EWAZ is seeing an increase in failing assets in these three districts, and these assets require replacement in order to ensure high quality, safe and reliable service. Additionally, failure to replace assets when it is economical to do so can be more problematic in the future. Demographic and economic conditions are always subject to change, but infrastructure needs are essentially fixed.

The American Water Works Association estimates that buried drinking water infrastructure will need investment totaling more than $1 trillion nationwide

in the next 25 years.[1] Determining the age at which an asset is likely to fail is dependent on many variables including the material of the asset, the type of soil in which the asset is buried, and the composition of the water. Finding patterns in historical data help determine where imminent failures may occur. All of the assets to be replaced by EPCOR pursuant to the SIB mechanism have been determined to be in need of replacement, and their replacement will reduce risk, allow the continued provision of safe and reliable utility services, and reduce what has become known as "rate shock".

Q. HOW DOES THE SIB REDUCE "RATE SHOCK"?

A. By increasing rates gradually as projects are approved each year. This is more in line with the real world; for example, wages go up a small percentage each year rather than increasing by a large amount every few years. Customers are simply better able to handle small changes in their bills each year as opposed to a larger increase once every few years. As noted in Phase 2 of the AWC rate case, Arizona utility customers strongly prefer frequent smaller rate increases rather than periodic but significantly larger rate increases.[2]

Q. CAN YOU PROVIDE ADDITIONAL DESCRIPTION OF THE QUALIFYING PROJECTS FOR EACH DISTRICT, STARTING WITH THE MOHAVE WATER DISTRICT?

A. The Company plans to include meters, mains, services, and valves for replacement under the proposed SIB mechanism.

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[1] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012.

[2] *Arizona Water Company*, Decision No. 73938 at 28:8-9.

METERS

There are approximately 17,000 meters in this district. Most of these meters are between 15 and 20 years old. The proposed meter replacement schedule will ensure that all meters in this district are replaced by 2019, at the time when many of the meters would otherwise be over 20 years old. The meters must be replaced as they age because they become inaccurate, typically under-registering usage, which also contributes to non-revenue water percentages. The Arizona Department of Water Resources' ("ADWR") Modified Non-Per Capita Conservation Program ("MNPCCP") is one of the regulatory programs for large municipal water providers in Active Management Areas. It is a performance-based program (Best Management Practice or "BMP") that participating water providers use to implement water conservation measures that result in water use efficiency in their service areas. ADWR's BMP for meter replacement and testing requires 2-inch and smaller meters be replaced at a minimum of every 15 years. This meter replacement schedule or a shorter schedule is in-line with industry standards and is authorized by the Commission in EWAZ's water districts (Meter Repair and/or Replacement Tariff – BMP 4.2). The Company is proposing a meter replacement program that will first target meter routes with the oldest meters. EWAZ replaces all meters in its operating companies with the same common meter and software platform, which increases meter reading efficiency, customer service, and employee safety. The Company plans to replace approximately 1,700 meters per year on average over the next five years and expects to continue at this pace until all the meters in the Mohave Water system are replaced. The meter replacement cost over the five-year period is estimated at $1.5 million.

MAINS

The Mohave Water service area is comprised of about 200 miles of distribution mains installed between 1955 and 2013. Much of this pipe has a history of breaks and repairs, especially in those pipes installed between 1955 and 1975. A recent City of Bullhead sewer project revealed excessive leaking in an older portion of the City of Bullhead, where most of the plastic ABS (Acrylonitrile Butadiene Styrene) pipe was installed in 1967. The area near Old Bullhead has a similar problem, where ABS pipe installed in 1970 has had numerous leaks and breaks. The PVC (polyvinyl chloride) pipe installed in 1975 in the Lake Mohave Highlands area has had numerous breaks, which has caused a loss in water pressure to customers in the past. During another City of Bullhead sewer project, AC (Asbestos Cement) pipe installed in the 1950s and 1960s was so brittle that it would break when it was exposed. These are just some of the conditions that exist throughout the Mohave Water system. In order to prevent future breaks and leaks that contribute to water loss, EWAZ is proposing a main replacement plan that will include the replacement of about 18,000 feet of pipe between 2015 and 2019 at an approximate cost of $4.6 million over the five-year period.

SERVICES

There are approximately 17,000 service connections in the Mohave Water district. Many of these services are either made of polyethylene or polybutylene, both of which have been known to weaken and break easily and quickly. Most leaks go undetected, as they tend to remain below the surface of the ground. Additionally, many of the services are split to feed two or more meters. This can cause problems with water pressure and flow for customers, and makes it difficult for EWAZ to terminate service to a single customer. Except in the case of very low use customers (i.e., in mobile home parks), a single service per meter should be

installed. Using historical data to determine the likelihood that services of a certain age, material, and location have failed or are at risk for immediate failure, the Company plans to replace approximately 800 services between 2015 and 2019 at a total cost of about $3.0 million.

VALVES

The Mohave Water distribution system has 4,100 valves that were installed between 1955 and 2013. Historically, valves were tested and replaced if found broken or inoperable during routine maintenance or main repairs. However, EWAZ has found that more valves need to be tested, and replaced if necessary, on an annual basis to improve system reliability and reduce customer service disruptions. An analysis of historical broken valve data showed that the probability of a valve being broken if it is older than 50 years is around 25 percent. EWAZ can no longer perform routine valve maintenance in the older portions of the system because so many would break and need emergency replacement. For this reason, EWAZ plans to test specific areas of the system with the intention of replacing all broken and inoperable valves. The Company estimates it will replace about 230 valves between 2015 and 2019 at a total cost of about $1.1 million.

Q. PLEASE EXPLAIN THE QUALIFYING PROJECTS FOR THE PARADISE VALLEY WATER DISTRICT.

A. The Company plans to include mains, services, and valves for replacement under the proposed SIB mechanism in the Paradise Valley Water District.

MAINS

The Paradise Valley Water District service area is comprised of 130 miles of distribution mains installed between 1946 and 2013. Historical data shows that breaks occur most often in the oldest pipes, and usually in high-pressure areas where many of the mains are less than six inches in diameter. The Company plans

to replace mains that have a history of breaks and repairs. Considering the pipes that are at the highest risk for failure in the system, the Company will replace approximately 9,300 feet of pipe between 2015 and 2019 at a total cost of about $1.7 million.

SERVICES

There are approximately 5,000 service connections in the Paradise Valley Water District. Some of the oldest of these services are located in the Clearwater Hills area and in the area north of Lincoln between Invergordon Road and Lost Dutchman Road. These services are galvanized steel pipe which have been found to be highly corroded and are failing at an extremely high rate. The Company has already begun replacement of the old and failing galvanized services in these areas, and plans to continue these replacements, completing approximately 1,100 services between 2015 and 2019. The total cost over the five-year period is estimated to be $4.3 million.

VALVES

The Paradise Valley Water distribution system has 2,365 valves. As previously explained for the Mohave Water District, historically valves were replaced if they were found broken or inoperable during routine maintenance or main repairs, yet more need to be replaced to improve system reliability. Operations staff has found that during routine maintenance, approximately 10% of the valves are found broken, and up to 30% more are found inoperable in the older parts of the system. The Company plans to test all of the valves in the system between 2015 and 2019 and replace valves that are found broken or inoperable. It is anticipated that approximately 200 valves will be replaced between 2015 and 2019 at a total cost of $1.1 million.

Q. **CAN YOU DESCRIBE THE QUALIFYING PROJECTS FOR THE SUN CITY WATER DISTRICT?**

A. The Company plans to include meters, mains, valves, and services for replacement under the proposed SIB mechanism in the Sun City Water district.

METERS

There are approximately 23,600 meters in the Sun City Water District. The Company has been actively replacing meters that have exceeded their useful life and plans to have all of the meters replaced by 2019. Under the proposed SIB mechanism, approximately 11,600 meters will be replaced at a total cost of about $2.2 million.

MAINS

The Sun City Water District service area is comprised of 320 miles of distribution mains. Most of this pipe was installed before 1985 with the oldest pipe installed in 1959, and about half of the pipe was installed between 1959 and 1969. Main breaks are becoming much more frequent in the Sun City Water District, not only because of the age of the pipe, but also because of the native soil type in the area. The native bedding in the Coyote Lakes area, for example, has necessitated the repair of 37 leaks and breaks in this area over the past five years. Additionally, the service area as a whole had more than 200 repairs of mains in the last five years, half of which occurred in the mains installed between 1959 and 1963. Considering the pipes that are at the highest risk for failure in the system, the Company plans to replace about 5 miles of pipe between 2015 and 2019 at a total cost of approximately $4.1 million.

SERVICES

There are approximately 23,600 service connections in the Sun City Water District. The age of these services generally matches the age of the pipe, much of which was

installed between 1959 and 1969. Additionally, many of these services are galvanized steel pipe, which has been found to be highly corroded and failing at a high rate. Using historical data to determine the likelihood that services of a certain age, material, and location have failed or are at risk for immediate failure, EWAZ plans to replace approximately 1,100 services between 2015 and 2019 at a total cost of about $4.3 million.

VALVES

The Sun City Water distribution system has about 6,000 valves. As previously explained for the Mohave Water and Paradise Valley Water districts, historically valves were replaced if they were found broken or inoperable during routine maintenance or main repairs. The Company plans to test all of the valves in the system between 2015 and 2019 and replace the valves that are found broken or inoperable. It is anticipated that approximately 80 valves will be replaced between 2015 and 2019 at a total cost of about $400,000.

Q. **WHAT FURTHER SUPPORT WILL THE COMPANY PROVIDE FOR INCLUSION OF THESE REPLACEMENTS IN THE PROPOSED SIB MECHANISM?**

A. The Company has prepared a SIB Engineering Report for each district, which details the justification and cost of each individual project included in the proposed SIB mechanism for each of the districts where a SIB mechanism has been requested. These reports are included as Exhibits CC-1-A for Mohave Water, CC-1-B for Sun City Water, and CC-1-C for Paradise Valley Water. The engineering reports are available upon request. A SIB Plant Table I is included in the report for each SIB Project; these tables are also included separately as Exhibit CC-2. An additional exhibit, Exhibit CC-3, includes a template SIB Plant Table II, to be used when each SIB project is completed.

Q. HAS THE COMPANY INCLUDED A PLAN OF ADMINISTRATION ("POA") FOR THE SIB?

A. Yes. A POA template has been prepared by the Commission and is included as Exhibit CC-4. The POA schedules will be completed for each district after a final decision in this proceeding is issued. Should the POA be updated by the Commission, we will modify this template accordingly.

Q. DOES THIS CONLCUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

SIB Table I

(Exhibit CC-2-A)

EPCOR Water (USA) Inc.

Mohave Water District

PWS ID No. 08-032, 08-333, 08-068

February 28, 2014

Mohave – PWS ID No. 08-032

SIB PLANT TABLE I, 1-1

2015 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	333	service lines	36	¾" & 1"	Copper	$3,881	Calle de Mercado	12/2015	n/a	$139,709	Replace 34 residential and 2 commercial services on Silver Creek Rd, Calle de Mercado, and Mercado Ct between El Cazador and Rosewood Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-1 in Exhibit CC-1-A for more detail.
S-2	333	service lines	53	¾" & 1"	Copper	$3,881	Avenida Colibri	12/2015	n/a	$205,682	Replace 53 residential services on Avenida Colibri and Colibri Ct between Corona Vista and Rosewood Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-2 in Exhibit CC-1-A for more detail.

S-3	333	service lines	25	¾" & 1"	Copper	$3,881	Paloma Senda Dr	12/2015	n/a	$97,020	Replace 25 residential services on Paloma Senda Dr between Corona Vista and Rosewood Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-3 in Exhibit CC-1-A for more detail.
S-4	333	service lines	24	¾" & 1"	Copper	$3,881	Avenida Grande	12/2015	n/a	$93,139	Replace 24 residential services on Avenida Grande between Corona Vista and Avenida Ventura Dr. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth See Section 1 narrative and Map No. S-4 in Exhibit CC-1-A for more detail.
S-5	333	service lines	37	¾" & 1"	Copper	$3,881	El Cazador	12/2015	n/a	$143,590	Replace 37 residential services on Calle de Mercado, Valley Vista, El Cazador, Corona Vista, Avenida Grande, Corona Redonda, and Via Corona south of Silver Creek Rd Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-5 in Exhibit CC-1-A for more detail.
S-6	333	service lines	99	¾" & 1"	Copper	$3,881	Riverside Dr North	12/2015	n/a	$384,199	Replace 99 residential services on Riverside Dr between Orca Ln and Colorado Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-6 in Exhibit CC-1-A for more detail.
Total			274							$1,063,339	

Mohave – PWS ID No. 08-032

SIB PLANT TABLE I, 1-2

2016 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-7	333	service lines	38	¾" & 1"	Copper	$3,881	Riverside Dr South	12/2016	n/a	$147,470	Replace 38 residential services on Riverside Dr between Orca Ln and Capistrano Ln. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-7 in Exhibit CC-1-A for more detail.
S-8	333	service lines	69	¾" & 1"	Copper	$3,881	Castle Rock	12/2016	n/a	$267,775	Replace 69 residential services on Castle Rock Cir and Capistrano Ln between Riverside Dr and Marina Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-8 in Exhibit CC-1-A for more detail.

S-9	333	service lines	46	¾" & 1"	Copper	$3,881	Capistrano Ln	12/2016	n/a	$178,517	Replace 46 residential services on Castle b...y L... ...d Capistrano Ln between Riverside Dr and Orca Ln. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-9 in Exhibit CC-1-A for more detail.
Total			153							$593,762	

Mohave – PWS ID No. 08-032

SIB PLANT TABLE I, 1-3

2017 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-10	333	service lines	40	¾" & 1"	Copper	$3,881	Orca Ln	12/2017	n/a	$155,232	Replace 40 residential services on Orca Ln between Riverside Dr and Colorado Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-10 in Exhibit CC-1-A for more detail.
S-11	333	service lines	62	¾" & 1"	Copper	$3,881	Tanglewood Ln	12/2017	n/a	$240,610	Replace 62 residential services on Tanglewood Ln and Willowood Ln between Riverside Dr and Colorado Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-11 in Exhibit CC-1-A for more detail.
Total			102							$395,842	

Mohave – PWS ID No. 08-032

SIB PLANT TABLE I, 1-4

2018 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-12	333	service lines	45	¾" & 1"	Copper	$3,881	Meander Ln	12/2018	n/a	$174,636	Replace 45 residential services on Meander Dr between Thunderbird Ln and Rio Grande Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-12 in Exhibit CC-1-A for more detail.
S-13	333	service lines	51	¾" & 1"	Copper	$3,881	Colorado Blvd South	12/2018	n/a	$197,921	Replace 51 residential services on Colorado Blvd between Marina Blvd and Riverwood Ln. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-13 in Exhibit CC-1-A for more detail.

S-14	333	service lines	49	¾" & 1"	Copper	$3,881	Forost Dr	12/2018	n/a	$190,159	Replace 49 residential services on Forest Dr between Riverwood Ln and Hancock Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-14 in Exhibit CC-1-A for more detail.
Total			145							$562,716	

Mohave – PWS ID No. 08-032

SIB PLANT TABLE I, 1-5

2019 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-15	333	service lines	40	¾" & 1"	Copper	$3,881	Cyprus Ln	12/2019	n/a	$155,232	Replace 40 residential services on Cyprus Ln between Colorado Blvd and Riverside Dr. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-15 in Exhibit CC-1-A for more detail.
S-16	333	service lines	16	¾" & 1"	Copper	$3,881	Riverwood Ln	12/2019	n/a	$62,093	Replace 16 residential services on Riverwood Ln between Colorado Blvd and Riverside Dr. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-16 in Exhibit CC-1-A for more detail.

S-17	333	service lines	47	¾" & 1"	Copper	$3,881	Colorado Blvd North	12/2019	n/a	$182,398	Replace 47 residential services on Colorado Blvd. between Riverwood Ln. and Hancock Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section I narrative and Map No. S-17 in Exhibit CC-1-A for more detail.
Total			103							**$399,722**	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 2-1

2015 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	46	22-4" 19-6" 4-8" 1-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area bounded by the Colorado River on the west, Hancock Rd on the north, and Lakeside Dr on the east	12/2015	n/a	$212,819	Replace 22-4", 19-6", 4-8", and 1-12" (estimated, 46 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over one-third of the valves in the system are about 50 years old. In 2013, over 60 valves were found broken during normal operations activities. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-1 in Exhibit CC-1-A for more detail.
Total			46							$212,819	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 2-2

2016 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-2	331	gate valves	46	11-4" 26-6" 8-8" 1-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area bounded by the Colorado River on the west, Hancock Rd on the south, and Hwy 95 and Fletcher Ln on the east	12/2016	n/a	$217,439	Replace 11-4", 26-6", 8-8", and 1-12" (estimated, 46 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over one-third of the valves in the system are about 50 years old. In 2013, over 60 valves were found broken during normal operations activities. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-2 in Exhibit CC-1-A for more detail.
Total			46							$217,439	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 2-3

2017 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-3	331	gate valves	46	8-4" 23-6" 10-8" 5-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area bounded by Camino Del Rio and Lakeside Dr on the west, Hancock Rd on the north, Hwy 95 on the east, and Rainbow Dr on the south; also the area bounded by Hwy 95 on the west and north, Arcadia Blvd on the east, and Rio Vista Dr on the south	12/2017	n/a	$225,289	Replace 8-4", 23-6", 10-8", and 5-12" (estimated, 46 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over one-third of the valves in the system are about 50 years old. In 2013, over 60 valves were found broken during normal operations activities. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-3 in Exhibit CC-1-A for more detail.
Total			46							$225,289	

Mohave – PWSID No. 08032

SIB PLANT TABLE I, 2-4

2018 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-4	331	gate valves	45	1-4" 17-6" 20-8" 2-10" 5-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 10"-$5,641 12"-$6,173	Area east of Arcadia Blvd and Hwy 95 between the Pass Canyon Rd and Rainbow Dr	12/2018	n/a	$229,658	Replace 1-4", 17-6", 20-8", 2-10", and 5-12" (estimated, 45 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over one-third of the valves in the system are about 50 years old. In 2013, over 60 valves were found broken during normal operations activities. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-4 in Exhibit CC-1-A for more detail.
Total			45							$229,658	

Mohave – PWS ID Nos. 08032, 08137, 08062, 08037, 08333, and 08163

SIB PLANT TABLE I, 2-5

2019 Valve Replacements

Information to be Included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-5	331	gate valves	45	8-4" 9-6" 23-8" 1-10" 4-12"	cast iron with rubberiz ed epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 10"-$5,641 12"-$6,173	Old Bullhead City, Desert Foothills, Lake Mohave Highlands, Camp Mohave, Rio Vista Ranches, and Gateway areas	12/2019	n/a	$226,763	Replace 8-4", 9-6", 23-8", 1-10", and 4-12" (estimated, 45 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over one-third of the valves in the system are about 50 years old. In 2013, over 60 valves were found broken during normal operations activities. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-5 in Exhibit CC-1-A for more detail.
Total			45							$226,763	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 3-1

2015 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-1	331	Distribution Main	485 LF	6"	PVC	$235	Juanita Ln	12/2015	n/a	$113,878	Replace 485 LF of existing ABS thin-wall main with 6" PVC in Juanita Ln. The main was installed in 1982 and the existing material is not of sufficient strength for use in a public water system which has resulted in several leaks. Replacing the main will help reduce system water loss and improve customer pressure and flow. The existing main is 3" in diameter, which is not sufficient for installing hydrants or supporting fire flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-1 in Exhibit CC-1-A for more detail.

WM-2	331	Distribution Main	1,677 LF	8"	PVC	$270	Safari Dr	12/2015	n/a	$452,216	Replace existing mains in rear-lot easements along Safari Dr between Riverview Way and Riverview Dr and along Riverview Cv north of Riverview Dr with 1,677 LF of 8" main in Safari Dr between Riverview Way and Riverview Dr and Riverview Cv north of Riverview Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-2 in Exhibit CC-1-A for more detail.
Total			2,162 LF							$566,093	

Mohave – P[illegible]D No. 08032

SIB PLANT TABLE I, 3-2

2016 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-3	331	Distribution Main	571 LF	8"	PVC	$207	Riverview Way	12/2016	n/a	$118,041	Replace existing mains in rear-lot easements along Riverview Way between Riverview Dr and Swan Dr with 571 LF of 8" main in Riverview Way between Riverview Dr and Swan Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-3 in Exhibit CC-1-A for more detail.

WM-4	331	Distribution Main	1,860 LF	8"	PVC	$231	Swan Dr	12/2016	n/a	$430,441	Replace existing mains in rear-lot easements along Swan Dr between Bermuda Dr and Newport Dr with 1,860 LF of 8" main in Swan Dr between Bermuda Dr and Newport Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-4 in Exhibit CC-1-A for more detail.
WM-5	331	Distribution Main	978 LF	8"	PVC	$216	Coronado Dr	12/2016	n/a	$211,229	Replace existing mains in rear-lot easements along Coronado Dr between Swan Dr and Bermuda Dr with 978 LF of 8" main in Coronado Dr between Swan Dr and Bermuda Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-5 in Exhibit CC-1-A for more detail.
WM-6	331	Distribution Main	411 LF	8"	PVC	$272	Swan Pl	12/2016	n/a	$111,612	Replace existing mains in rear-lot easements along Swan Pl between Bermuda Dr and Swan Dr with 411 LF of 8" main in Swan Pl between Bermuda Dr and Swan Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-6 in Exhibit CC-1-A for more detail.
Total			**3,820 LF**							**$872,322**	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 3-3

2017 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-7	331	Distribution Main	1,155 LF	8"	PVC	$354	Morro Dr	12/2017	n/a	$408,980	Replace existing mains in rear-lot easements along along Morro Dr and Morro Cv between Bermuda Dr and Riverview Dr with 1,155 LF of 8" main in Morro Dr and Morro Cv between Bermuda Dr and Riverview Dr The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-7 in Exhibit CC-1-A for more detail.

WM-8	331	Distribution Main	353 LF	8"	PVC	$263	Coronado Dr	12/2017	n/a	$92,667	Replace existing mains in rear-lot easements along Coronado Dr between Riverview Dr and Malibu Dr with 353 LF of 8" main in Coronado Dr between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-8 in Exhibit CC-1-A for more detail.
WM-9	331	Distribution Main	190 LF	8"	PVC	$356	Alpine Cv	12/2017	n/a	$67,733	Replace existing mains in rear-lot easements along Alpine Cv between Riverview Dr and Malibu Dr with 190 LF of 8" main in Alpine Cv between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-9 in Exhibit CC-1-A for more detail.
WM-10	331	Distribution Main	548 LF	8"	PVC	$230	Ventura Dr	12/2017	n/a	$126,049	Replace existing mains in rear-lot easements along Ventura Dr between Riverview Dr and Malibu Dr with 548 LF of 8" main in Ventura Dr between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-10 in Exhibit CC-1-A for more detail.

WM-11	331	Distribution Main	1,839 LF	8"	PVC	$235	Bermuda Dr	12/2017	n/a	$431,449	Replace existing mains in rear-lot easements along Bermuda Dr between Riverview Dr and Coronado Dr with 1,839 LF of 8" main in Bermuda Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-11 in Exhibit CC-1-A for more detail.
Total			4,085 LF							$1,126,877	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 3-4

2018 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
WM-12	331	Distribution Main	655 LF	8"	PVC	$232	Montecito Dr	12/2018	n/a	$151,762	Replace existing mains in rear-lot easements along Montecito Dr between Riverview Dr and Malibu Dr with 655 LF of 8" main in Montecito Dr between Riverview Dr and Malibu Dr The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-12 in Exhibit CC-1-A for more detail.

WM-13	331	Distribution Main	2,090 LF	8"	PVC	$258	Hermosa Dr	12/2018	n/a	$538,549	Replace existing mains in rear-lot easemen.. ..ong Hermosa Dr between Riverview Dr and Coronado Dr with 2,090 LF of 8" main in Hermosa Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-13 in Exhibit CC-1-A for more detail.
WM-14	331	Distribution Main	1,342 LF	8"	PVC	$254	Balboa Dr South	12/2018	n/a	$340,624	Replace existing mains in rear-lot easements along Balboa Dr between Riverview Dr and Swan Dr with 1,342 LF of 8" main in Balboa Dr between Riverview Dr and Swan Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-14 in Exhibit CC-1-A for more detail.
Total			4,087 LF							$1,030,934	

Mohave – PWS ID No. 08032

SIB PLANT TABLE I, 3-5

2019 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-15	331	Distribution Main	900 LF	8"	PVC	$281	Balboa Dr North	12/2019	n/a	$252,945	Replace existing mains in rear-lot easements along Del Rey Dr between Swan Dr and Coronado Dr with 900 LF of 8" main in Del Rey Dr between Swan Dr and Coronado Dr The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-15 in Exhibit CC-1-A for more detail.

WM-16	331	Distribution Main	2,603 LF	8"	PVC	$284	Del Rey Dr	12/2019	n/a	$739,306	Replace existing mains in rear-lot easeme.. .ong Del Rey Dr between Riverview Dr and Coronado Dr with 2,603 LF of 8" main in Del Rey Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in leaks and/or breaks. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-16 in Exhibit CC-1-A for more detail.
Total			**3,503 LF**							**$992,251**	

Mohave water district – PWS ID No. 08-032

SIB PLANT TABLE I, 4-1

2015 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-1	334	meters	1,479	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1019, 1061, and 1111-1116 (see map M-1 in Exhibit CC-1)	12/2015	n/a	$266,908	Replace 1,408 - 5/8", 2 - 3/4", 39 – 1", and 30 – 2" (1,479 total) meters in Mohave district meter routes 1019, 1061, and 1111-1116. The existing meters in these routes will be between 12 and 16 years old at the time of replacement; most will be at least 15 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-1 in Exhibit CC-1-A for more detail.
Total			1,479							$266,908	

Mohave water district – PWS ID No. 08-032

SIB PLANT TABLE I, 4-2

2016 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-2	334	meters	1,782	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1005, 1105-1110, and 1130 (see map M-2 in Exhibit CC-1)	12/2016	n/a	$314,733	Replace 1,733 - 5/8", 34 – 1", 3 – 1.5", and 12 – 2" (1,782 total) meters in Mohave district meter routes 1005, 1105-1110, and 1130. The existing meters in these routes will be between 12 and 17 years old at the time of replacement; most will be at least 16 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-2 in Exhibit CC-1-A for more detail.
Total			1,782							$314,733	

Mohave water district – PWS ID No. 08-032

SIB PLANT TABLE I, 4-3

2017 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-3	334	meters	1,638	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1002, 1003, 1014, and 1101-1104 (see map M-3 in Exhibit CC-1)	12/2017	n/a	$298,679	Replace 1,557 - 5/8", 34 – 1", 1 – 1.5", and 46 – 2" (1,638 total) meters in Mohave district meter routes 1002, 1003, 1014, and 1101-1104. The existing meters in these routes will be between 16 and 23 years old at the time of replacement; most will be at least 17 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-3 in Exhibit CC-1-A for more detail.
Total			1,638							$298,679	

Mohave water district – PWD ID Nos. 08-032 and 08-137

SIB PLANT TABLE I, 4-4

2018 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-4	334	meters	1,457	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1008, 1009, 1011-1013, 1042, 1124, 1131, 1133, and 1137 (see map M-4 in Exhibit CC-1)	12/2018	n/a	$263,074	Replace 1,377 - 5/8", 37 – 1", and 43 – 1.5" (1,457 total) meters in Mohave district meter routes 1008, 1009, 1011-1013, 1042, 1124, 1131, 1133, and 1137. The existing meters in these routes will be between 13 and 19 years old at the time of replacement; most will be at least 14 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-4 in Exhibit CC-1-A for more detail.
Total			1,457							$263,074	

Mohave water district – PWS ID Nos. 08-032, 08-333, and 08-068

SIB PLANT TABLE I, 4-5

2019 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-5	334	meters	2,118	5/8" to >2"	Copper/ Plastic	5/8"-$173, ¾"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1062, 1074, 1075, and NMVW (see map M-5 in Exhibit CC-1)	12/2019	n/a	$368,099	Replace 2,111 - 5/8", 4 – 1", and 3 – 2" (2,118 total) meters in Mohave district meter routes 1062, 1074, 1075, and North Mohave Valley Water. The existing meters in these routes will be between 13 and 19 years old at the time of replacement; most will be at least 14 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-5 in Exhibit CC-1-A for more detail.
Total			2,118							$368,099	

SIB Table I

(Exhibit CC-2-B)

EPCOR Water (USA) Inc.

Sun City Water District

PWS ID No. 07-099

February 28, 2014

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 1-1

2015 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	333	service lines	42	2-1" 40-1.5"	Copper	1"-$3,881, 1.5"-$3,947	Kelso Dr	12/2015	n/a	$165,634	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (42 total on 107th Dr, 109th Ave, Caron Dr, Denham Dr, Kelso Dr and Mission Ln between 109th Ave and 107 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-1 in Exhibit CC-1-B for more detail.
S-2	333	service lines	17	1"	Copper	1"-$3,881	Hatcher Rd	12/2015	n/a	$65,974	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (17 total on 109th Dr and Hatcher Rd between Kelso Dr and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-2 in Exhibit CC-1-B for more detail.

S-3	333	service lines	18	14-1.5" 4-2"	Copper	1.5"-$3,947 2"-$4,013	110th Ave	12/2015	n/a	$71,306	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (18 total on 110th Ave and Apartments between Kelso Dr and Mountain View Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-3 in Exhibit CC-1-B for more detail.
S-4	333	service lines	16	1.5"	Copper	$3,947	Mountain View Rd	12/2015	n/a	$63,149	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (16 total on Mountain View Rd and Venturi Dr between Cumberland Dr and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-4 in Exhibit CC-1-B for more detail.
S-5	333	service lines	22	1.5"	Copper	$3,947	Cheryl Dr	12/2015	n/a	$86,830	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Cheryl Dr, Cinnabar Ave, Cumberland Dr, and Salem Dr between Mountain View Rd and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-5 in Exhibit CC-1-B for more detail..
S-6	333	service lines	5	1.5"	Copper	$3,947	103rd Ave	12/2015	n/a	$19,734	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on 103rd Ave between Mountain View Rd and Olive Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-6 in Exhibit CC-1-B for more detail.

S-7	333	service lines	11	1.5"	Copper	$3,947	Balboa Dr	12/2015	n/a	$43,415	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on Balboa Dr between Mountain View Rd and Ironwood Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-7 in Exhibit CC-1-B for more detail.
S-8	333	service lines	24	1.5"	Copper	$3,947	108th Dr	12/2015	n/a	$94,723	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (24 total on 108th Ave, 108th Dr, Clair Dr, Deanne Cir and Peoria Ave between 109th Ave and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-8 in Exhibit CC-1-B for more detail.
S-9	333	service lines	10	1.5"	Copper	$3,947	Clair Dr	12/2015	n/a	$39,468	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Clair Dr and Peoria Ave between 111th Ave and 108th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-9 in Exhibit CC-1-B for more detail.
Total			165							$650,232	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 1-2

2017 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-10	333	service lines	11	2-1" 40-1.5"	Copper	1"-$3,881 1.5"-$3,947	105th Dr	12/2017	n/a	$43,415	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on 105th Ave, 105th Dr, 106th Ave, 106th Dr, Audrey Dr, Clair Dr and Deanne Dr between 107th Ave and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-10 in Exhibit CC-1-B for more detail.
S-11	333	service lines	25	1"	Copper	1"-$3,881	Audrey Dr	12/2017	n/a	$98,670	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (25 total on Audrey Dr, Clair Dr, Corte Del Sol Este, Corte Del Sol Oeste, Deanne Dr and Peoria Ave between 105th Ave and 103 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-11 in Exhibit CC-1-B for more detail.

S-12	333	service lines	22	14-1.5" 4-2"	Copper	1.5"-$3,947 2"-$4,013	Caron Dr	12/2017	n/a	$86,830	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Tonada Dr, Caron Dr, Kelso Dr and109th Dr between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-12 in Exhibit CC-1-B for more detail.
S-13	333	service lines	14	11-1.5" 3-2"	Copper	1.5"-$3,947 2"-$4,013	Mountain View Rd West	12/2017	n/a	$55,453	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on 105th Ave, 105th Dr, 107th Ave, Mountain View Rd, Rodgers Cir and Winninger Cir between 107th and 103rd Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-13 in Exhibit CC-1-B for more detail.
S-14	333	service lines	14	1.5"	Copper	$3,947	Mountain View Rd East	12/2017	n/a	$55,255	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Mountain View Rd between 103rd Ave and Balboa Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-14 in Exhibit CC-1-B for more detail.
S-15	333	service lines	4	1.5"	Copper	$3,947	Peoria Ave and 103rd Ave	12/2017	n/a	$15,787	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (4 total on Peoria Ave between 103th Ave and 99 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-15 in Exhibit CC-1-B for more detail.

S-16	333	service lines	8	1.5"	Copper	$3,947	Abbott Ave West	12/2017	n/a	$31,574	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on Abbott Ave between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-16 in Exhibit CC-1-B for more detail.
S-17	333	service lines	14	1.5"	Copper	$3,947	Abbott Ave East	12/2017	n/a	$52,255	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Abbott Ave and 107th Ave between 109th Ave and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-17 in Exhibit CC-1-B for more detail.
S-18	333	service lines	3	2-1.5" 1-3"	Copper	1.5"-$3,947 3"-$4,145	Peoria Ave and 105th Ave	12/2017	n/a	$12,038	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (3 total on Peoria Ave and 105th Ave between 107th Ave and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-18 in Exhibit CC-1-B for more detail.
S-19	333	service lines	1	1.5"	Copper	$3,947	Peoria Ave and 99th Ave	12/2017	n/a	$3,947	Replace aging service with copper service line to reduce water leaks and emergency repairs. (1 total on Peoria Ave between 99th Ave and 96th Ave.) This service is a priority because it was installed 40 to 50 years ago. Replacing the service will help reduce system water loss and improve customer pressure and flow. The service line replacement is for existing customers and not related to new growth. See Section 1 narrative and Map No. S-19 in Exhibit CC-1-B for more detail.
S-20	333	service lines	3	1.5"	Copper	$3,947	Snead Circle	12/2017	n/a	$11,840	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (3 total on Sneed Circle west of 103 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-20 in Exhibit CC-1-B for

											more detail.
S-21	333	service lines	10	1.5"	Copper	$3,947	Coggins Dr	12/2017	n/a	$39,468	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Coggins Dr and Lakeview Cir between Sun City Blvd and Balboa Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-21 in Exhibit CC-1-B for more detail..
S-22	333	service lines	1	1.5"	Copper	$3,947	99th Ave	12/2017	n/a	$4,145	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on 99th Ave between Sun City Blvd and Peoria Ave.) This service is a priority because it was installed 40 to 50 years ago. Replacing the service will help reduce system water loss and improve customer pressure and flow. The service line replacement is for existing customers and not related to new growth. See Section 1 narrative and Map No. S-22 in Exhibit CC-1-B for more detail.
S-23	333	service lines	4	1.5"	Copper	$3,947	111th Ave South	12/2017	n/a	$15,787	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (4 total on 111th Ave between Elk Ave and Iowa Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-23 in Exhibit CC-1-B for more detail.
S-24	333	service lines	8	1.5"	Copper	$3,947	107th Ave South	12/2017	n/a	$31,574	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 107th Ave between Connecticut Ave and Elk Ave and Hope Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-24 in Exhibit CC-1-B for more detail.

S-25	333	service lines	5	1.5"	Copper	$3,947	111th Ave North	12/2017	n/a	$19,734	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on 111th Ave and Alabama Ave between Elk Ave and Cherry Hills Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-25 in Exhibit CC-1-B for more detail.
S-26	333	service lines	12	1.5"	Copper	$3,947	107th Ave North	12/2017	n/a	$47,362	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (12 total on 107th Ave and Alabama Ave between Pebble Beach Dr and Connecticut Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-26 in Exhibit CC-1-B for more detail.
S-27	333	service lines	8	1.5"	Copper	$3,947	Alabama Ave and 107th Ave	12/2017	n/a	$31,574	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 107th Ave and Alabama Ave between Cherry Hills Dr and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-27 in Exhibit CC-1-B for more detail.
S-28	333	service lines	10	1.5"	Copper	$3,947	Alabama Ave at Thunderbird	12/2017	n/a	$39,468	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Alabama Ave and 103th Ave between 105th Ave and Oakmont Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-28 in Exhibit CC-1-B for more detail.

S-29	333	service lines	7	1.5"	Copper	$3,947	Alabama Ave at Coggins	12/2017	n/a	$27,628	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (7 total on Alabama Ave between 103rd Ave and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-29 in Exhibit CC-1-B for more detail.
S-30	333	service lines	27	14-1.5" 13-2"	Copper	1.5"-$3,947 2"-$4,013	Coggins Dr	12/2017	n/a	$107,422	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (27 total on Coggins Dr and Windsor Dr between 111th Ave and 108th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-30 in Exhibit CC-1-B for more detail.
S-31	333	service lines	10	8-1.5" 2-2"	Copper	1.5"-$3,947 2"-$4,013	Oakmont Dr West	12/2017	n/a	$39,600	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Oakmont Dr, 107th Ave and 108th Ave between Grand Ave and Cherry Hills Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-31 in Exhibit CC-1-B for more detail.
S-32	333	service lines	14	6-1.5" 8-2"	Copper	1.5"-$3,947 2"-$4,013	Oakmont Dr East	12/2017	n/a	$55,783	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on 105th Ave, Coggins Dr and Oakmont Dr between 107th Ave and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-32 in Exhibit CC-1-B for more detail.

S-33	333	service lines	21	5-1.5" 16-2"	Copper	1.5"-$3,947 2"-$4,013	Newcastle Dr	12/2017	n/a	$83,939	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (21 total on Emerald Dr, Garden Court , Newcastle Dr, Silverbell Dr and Thunderbird Blvd between Emerald Dr and 111th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-33 in Exhibit CC-1-B for more detail.
S-34	333	service lines	25	4-1.5" 20-2" 1-2.5"	Copper	1.5"-$3,947 2"-$4,013 2.5"-$4,079	Santa Fe Dr West	12/2017	n/a	$100,122	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (25 total on 109th Ave, 110th Ave, 111th Ave, Santa Fe Dr and Thunderbird Blvd between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-34 in Exhibit CC-1-B for more detail.
S-35	333	service lines	32	10-1.5" 22-2"	Copper	1.5"-$3,947 2"-$4,013	Santa Fe Dr East	12/2017	n/a	$127,750	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (32 total on 108th Ave, 108th Dr, Santa Fe Dr and Thunderbird Blvd between 109th Ave and Del Webb Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-35 in Exhibit CC-1-B for more detail.
Total			313							**$1,241,420**	

Sun City – PWS ID No. 07-099
SIB PLANT TABLE I, 1-3
2018 Service Line Replacements
Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-36	333	service lines	11	5-1.5" 5-2" 1-3"	Copper	1.5"-$3,947 2"-$4,013 3"-$4,145	Thunderbird Blvd	12/2018	n/a	$43,943	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on 105th Ave and Thunderbird Blvd between Del Webb Blvd and 103rd Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-36 in Exhibit CC-1-B for more detail.
S-37	333	service lines	9	7-1.5" 2-2"	Copper	1.5"-$3,947 2"-$4,013	Royal Oak Rd South	12/2018	n/a	$31,640	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (9 total on 103rd Ave, 99th Ave and Santa Fe Dr between 103rd Ave and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-37 in Exhibit CC-1-B for more detail.

S-38	333	service lines	39	2-1.5" 37-2"	Copper	1.5"-$3,947 2"-$4,013	Royal Oak Rd North	12/2018	n/a	$156,367	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (39 total on 100th Ave, 100th Dr, 99th Dr, Cedar Dr, Forrester Dr, Royal Oak Rd and Thunderbird Blvd between Thunderbird Bld and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-38 in Exhibit CC-1-B for more detail.
S-39	333	service lines	22	3-1.5" 19-2"	Copper	1.5"-$3,947 2"-$4,013	Hawthorn Dr	12/2018	n/a	$88,084	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on 100th Ave, Emberwood Dr, Hawthorn Dr and Thunderbird Blvd between Forrester Dr and Lancaster Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-39 in Exhibit CC-1-B for more detail.
S-40	333	service lines	14	1.5"	Copper	$3,947	Candlewood Dr	12/2018	n/a	$55,255	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Royal Oak Rd and Candlewood Dr between 103rd Ave and Thunderbird Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-40 in Exhibit CC-1-B for more detail.
S-41	333	service lines	5	1.5"	Copper	$3,9477	Bolivar Dr	12/2018	n/a	$19,734	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on Bolivar Dr and Crown Pt between 103rd Ave and Teakwood Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-41 in Exhibit CC-1-B for more detail.

S-42	333	service lines	17	1.5"	Copper	$3,947	Tumble-brook Way	12/2018	n/a	$67,096	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (17 total on 99th Dr, Bolivar Dr, Thunderbird Blvd and Tumblebrook Way between LancasterDr and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-42 in Exhibit CC-1-B for more detail.
S-43	333	service lines	1	1.5"	Copper	$3,947	Thunderbird Ave	12/2018	n/a	$3,947	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on Thunderbird Rd between Sahara Dr and 93rd Ave.) This service is a priority because it was installed 40 to 50 years ago. Replacing the service will help reduce system water loss and improve customer pressure and flow. The service line replacement is for existing customers and not related to new growth. See Section 1 narrative and Map No. S-43 in Exhibit CC-1-B for more detail.
S-44	333	service lines	18	1-1.5" 17-2"	Copper	1.5"-$3,947 2"-$4,013	Newcastle Dr	12/2018	n/a	$72,164	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (18 total on Cameo Dr, Desert Butte Dr, Newcastle Dr, PalmRidge Dr and Thunderbird Blvd between Cameo Dr and Emerald Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-44 in Exhibit CC-1-B for more detail.
S-45	333	service lines	24	8-1.5" 16-2"	Copper	1.5"-$3,947 2"-$4,013	Palm Ridge Dr	12/2018	n/a	$95,779	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (24 total on 111th Ave, Cameo Dr and Palm Ridge Dr between Thunderbird Blvd and 111th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-45 in Exhibit CC-1-B for more detail.

S-46	333	service lines	20	6-1.5" 14-2"	Copper	1.5"-$3,947 2"-$4,013	Topaz Dr	12/2018	n/a	$79,860	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (20 total on 109th Ave, 110th Ave, Cameo Dr and Topaz Dr between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-46 in Exhibit CC-1-B for more detail.
S-47	333	service lines	33	8-1.5" 25-2"	Copper	1.5"-$3,947 2"-$4,013	108th Dr	12/2018	n/a	$131,894	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (33 total on 107th Dr, 108th Dr, Buccaneer Dr, Cameo Dr and Emerald Dr between 109th Ave and 107th Ln.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-47 in Exhibit CC-1-B for more detail.
S-48	333	service lines	8	7-1.5" 1-2"	Copper	1.5"-$3,947 2"-$4,013	Buccaneer Dr	12/2018	n/a	$31,640	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on Bayside Rd, Buccaneer Way and Del Webb Blvd between Cameo Dr and Buccaneer Way.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-48 in Exhibit CC-1-B for more detail.
S-49	333	service lines	32	1.5"	Copper	$3,947	Tropicana Cir South	12/2018	n/a	$126,298	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (32 total on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-49 in Exhibit CC-1-B for more detail.

S-50	333	service lines	22	1.5"	Copper	$3,947	Tropicana Cir North	12/2018	n/a	$86,830	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-50 in Exhibit CC-1-B for more detail.
S-51	333	service lines	41	1.5"	Copper	$3,947	El Capitan Cir	12/2018	n/a	$161,819	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (41 total on Camelot Cir, Del Webb Blvd, El Capitan Cir and Roundelay Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-51 in Exhibit CC-1-B for more detail.
Total			316							$1,256,363	

Sun City – Pws ID No. 07-099

SIB PLANT TABLE I, 1-4

2019 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-52	333	service lines	10	5-1.5" 5-2"	Copper	1.5"-$3,947 2"-$4,013	Del Webb Blvd	12/2019	n/a	$39,798	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total at the intersection of Del Webb Blvd, Thunderbird Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-52 in Exhibit CC-1-B for more detail.
S-53	333	service lines	49	1.5"	Copper	1.5"-$3,947	Saratoga Circle	12/2019	n/a	$193,393	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (49 total on Camelot Clr, El Capitan Clr, Roundelay Clr, Saratoga Clr and Tropicana Clr between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-53 in Exhibit CC-1-B for more detail.

S-54	333	service lines	41	1.5"	Copper	1.5"-$3,947	Kingswood Cir West	12/2019	n/a	$161,819	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (41 total on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Talisman Rd and Boswell Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-54 in Exhibit CC-1-B for more detail.
S-55	333	service lines	43	42-1.5" 1-2"	Copper	1.5"-$3,947 2"-$4,013	Kingswood Cir East	12/2019	n/a	$169,778	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (43 total on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Boswell Blvd and 103rd Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-55 in Exhibit CC-1-B for more detail.
S-56	333	service lines	53	49-1.5" 4-2"	Copper	1.5"-$3,947 2"-$4,013	Shasta Dr	12/2019	n/a	$209,444	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (53 total on Boswell Blvd, Desert Rose Dr, Pleasant Valley Rd, Sandstone Dr and Shasta Dr between Boswell Blvd and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-56 in Exhibit CC-1-B for more detail.
S-57	333	service lines	44	42-1.5" 2-2"	Copper	1.5"-$3,947 2"-$4,013	Prairie Hills Cir	12/2019	n/a	$173,791	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (44 total on 103rd Ave, Boswell Blvd, Kingswood Cir, Newport Dr, Pineridge Dr, Prairie Hills Cir, Raintree Dr and Spruce Dr between 103rd Ave and Boswell Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-57 in Exhibit CC-1-B for more detail.

S-58	333	service lines	50	49-1.5" 1-2"	Copper	1.5"-$3,947 2"-$4,013	Sandstone Dr	12/2019	n/a	$197,406	Replace aging services with copper servic[illegible] to reduce water leaks and emergency repairs. (50 total on Cameo Dr, Lakeforest Dr, Long Hills Dr, Sandstone Dr and Shasta Dr between 99th Ave and Cameo Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has abeen shown to have a useful life of less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section I narrative and Map No. S-58 in Exhibit CC-1-B for more detail.
Total			290							$1,145,430	

Sun City – PWS ID No. 07-099
SIB PLANT TABLE I, 2-1
2015 Valve Replacements
Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	16	3-4" 10-6" 2-8" 1-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Youngtown and area north of Grand Ave between 95th Ave and 115th Ave (see map V-1 for detail)	12/2015	n/a	$76,375	Replace 3-4", 10-6", 2-8", and 1-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. Over 42% of the valves in the system are over 40 years old. In the last year, approximately 2% of valves tested were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. See Section 2 narrative and Map V-1 in Exhibit CC-1-B for more detail.
Total			16							$76,375	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-2

2016 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-2	331	gate valves	16	1-4" 8-6" 5-8" 1-12" 1-16"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 16"-$7,603	Tierra Del Rio, Agua Fria Ranch, and the area south of Bell Rd between 99th Ave and 111th Ave (see map V-2 for detail)	12/2016	n/a	$81,418	Replace 1-4", 8-6", 5-8", 1-12", and 1-16" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced; Over 42% of the valves in the system are over 40 years old. In the last year, approximately 2% of valves tested were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-2 in Exhibit CC-1-B for more detail.
Total			16							$81,418	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-3

2017 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-3	331	gate valves	16	1-4" 8-6" 5-10" 2-12"	cast iron with rubberized epoxy coating	4"-$4,431 8"-$5,201 12"-$6,173	Coyote Lakes, Citrus Point, and area west of 99th Ave between Union Hills and Bell Rd (see map V-3 for detail)	12/2017	n/a	$82,188	Replace 1-4", 8-6", 5-10", and 2-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. Over 42% of the valves in the system are over 40 years old. In the last year, approximately 2% of valves tested were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-3 in Exhibit CC-J-B for more detail.
Total			16							$82,188	

Sun City – Pws ID No. 07-099
SIB PLANT TABLE I, 2-4
2018 Valve Replacements
Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-4	331	gate valves	16	2-4" 12-6" 2-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 12"-$6,173	Area east of 99th Ave between Thunderbird and Union Beardsley and east of 99th Ave north of Beardsley (see map V-4 for detail)	12/2018	n/a	$77,018	Replace 2-4", 12-6", and 2-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. Over 42% of the valves in the system are over 40 years old. In the last year, approximately 2% of valves tested were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-4 in Exhibit CC-1-B for more detail.
Total			16							$77,018	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-5

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-5	331	gate valves	16	1-4" 5-6" 7-8" 3-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area between Grand Ave and Olive Ave and between 111th Ave/127th Ave and the Agua Fria Wash (see map V-5 for detail)	12/2019	n/a	$82,610	Replace 1-4", 5-6", 7-8", and 3-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. Over 42% of the valves in the system are over 40 years old. In the last year, approximately 2% of valves tested were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-5 in Exhibit CC-1-B for more detail.
Total			**16**							**$82,610**	

Sun City – Pwo ID No. 07-099

SIB PLANT TABLE I, 3-1

2015 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-1	331	Mains	5,786 LF	2,842 LF-4" 2,944 LF-8"	PVC	$174	115th Dr, in north 1/3 of Coyote Lakes	12/2015	n/a	$1,005,087	Replace existing mains with 2,842 LF of 4" main and 2,944 LF of 8" main in 115th Dr and adjacent cul-de-sacs in the northern 1/3 of the Coyote Lakes development. The mains were installed in native soil which has resulted in several leaks due to rocks punoturing and cracking the pipe. Due to the high flows and pressures in this area, main breaks result in large amounts of lost water. Replacing the mains will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-1 in Exhibit CC-1-B for more detail.
Total			5,786 LF							$1,005,087	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-2

2016 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-2	331	Mains	12,869 LF	4,871 LF-4" 832 LF-6" 6,004 LF-8" 1,170 LF-12"	PVC	$131	115th Dr, Coyote Lakes Pkwy, in south 2/3 of Coyote Lakes	12/2016	n/a	$1,680,440	Replace existing mains with 4,871 LF of 4", 832 LF of 6", 6,004 LF of 8", and 1,170 LF of 12" main in 115th Dr, in Coyote Lakes Pkwy, and in adjacent cul-de-sacs in the southern 2/3 of the Coyote Lakes development The mains were installed in native soil which has resulted in several leaks due to rocks puncturing and cracking the pipe. Due to the high flows and pressures in this area, main breaks result in large amounts of lost water. Replacing the mains will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-2 in Exhibit CC-1-B for more detail.
Total			12,869 LF							$1,680,440	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-3

2017 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-3	331	Mains	3,854 LF	6"	PVC	$122	Cherry Hills Dr/Hillcrest Dr	12/2017	n/a	$471,483	Replace existing main with 3,854 LF of 6"main in Cherry Hills Dr and Hillcrest Dr south of Alabama Ave. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. The existing main is 4" in diameter which cannot support the flows necessary for fire protection. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-3 in Exhibit CC-1-B for more detail.
Total			3,854 LF							$471,483	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-4

2018 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-4	331	Mains	2,633 LF	6"	PVC	$133	Riviera Dr	12/2018	n/a	$349,698	Replace existing main with 2,633 LF of 6"main in Riviera Dr between 103rd Ave and 99th Ave. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. The existing main is 4" in diameter which cannot support the flows necessary for fire protection. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-4 in Exhibit CC-1-B for more detail.
Total			2,633 LF							$349,698	

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-5

2019 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-5	331	Mains	2,148 LF	6"	PVC	$144	105th Ave	12/2019	n/a	$308,391	Replace existing main with 2,148 LF of 6"main in 105th Ave between Alabama Ave and Desert Hills Dr. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-5 in Exhibit CC-1-B for more detail.
WM-6	331	Mains	1,676 LF	8"	PVC	$159	Oakmont Dr	12/2019	n/a	$266,771	Replace existing main with 1,676 LF of 8"main in Oakmont Dr between 107th Ave and 105th Ave. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-6 in Exhibit CC-1-B for more detail.
Total			3,824 LF							$575,162	

Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-1

2015 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-1	334	meters	2,100	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter Routes 128, 202, 203, 204, 205, and 229 (see map M-1 for detail)	12/2015	n/a	$409,508	Replace 1,857 - 5/8", 3 - 3/4", 13 – 1", 218 – 1.5", and 9 – 2" (2,100 total) meters in SC district Meter Routes 128, 202, 203, 204, 205, and 229. The existing meters in these routes will be at least 16 years old when replaced. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-1 in Exhibit CC-1-B for more detail.
Total			2,100							$409,508	

Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-2

2016 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-2	334	meters	2,071	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter Routes 135, 206, 211, 216, 227, and 232 (see map M-2 for detail)	12/2016	n/a	$376,982	Replace 1,665 - 5/8", 351 – 3/4", 13 - 1", 24 – 1.5", and 18 – 2" (2,071 total) in SC district meter routes 135, 206, 211, 216, 227, and 232. The existing meters in these routes will be over 12 years old at replacement; meters in routes 227 and 232 will be 17 and 16 years old, respectively. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-2 in Exhibit CC-1-B for more detail.
Total			2,071							$376,982	

Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-3

2017 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-3	334	meters	2,292	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter routes 136, 210, 219, 222, 224, 225, and 228 (see map M-3 for detail)	12/2017	n/a	$432,728	Replace 1,762 - 5/8", 398 - 3/4", 12 – 1", 85 – 1.5", and 35 – 2" (2,292 total) meters in SC district meter routes 136, 210, 219, 222, 224, 225, and 228. The existing meters in these routes will be between 12 and 13 years when replaced. The meters are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-3 in Exhibit CC-1-B for more detail.
Total			2,292							$432,728	

Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-4

2018 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-4	334	meters	2,784	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter routes 131, 133, 212, 217, 218, 220, 221, and 231 (see map M-4 for detail)	12/2018	n/a	$534,279	Replace 2,380 - 5/8", 1 - 3/4", 215 – 1", 159 – 1.5", and 29 – 2" (2,784 total) meters in SC district meter routes 131, 133, 212, 217, 218, 220, 221, and 231. The existing meters in these routes will be between 12 and 17 years old when replaced. The meters are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-4 in Exhibit CC-1-B for more detail.
Total			2,784							$534,279	

Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-5

2019 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (new plant) (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-5	334	meters	2,351	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter routes 207, 208, 209, 213, 214, 215, 223, and 226 (see map M-5 for detail)	12/2019	n/a	$470,906	Replace 2,018 - 5/8", 26 – 1", 277 – 1.5", and 30 – 2" (2,351 total) meters in SC district meter routes 207, 208, 209, 213, 214, 215, 223, and 226. The existing meters in these routes will be 14 years old when replaced. The meters are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-5 in Exhibit CC-1-B for more detail.
Total			**2,351**							**$470,906**	

SIB Table I

(Exhibit CC-2-C) EPCOR

Water (USA) Inc.

Paradise Valley Water District

PWS ID No. 0407056

February 28, 2014

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 1-1

2015 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	333	service lines	39	33-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Keim Dr	12/2015	n/a	$151,879	Replace 33-1", 4-1.5", and 2-2" (39 total) residential services between McDonald Dr, Keim Dr, 40th St, and 44th St. These services are a priority for replacement because they are galvanized steel pipe and will be about 58 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-1 in Exhibit CC-1-C for more detail.
S-2	333	service lines	23	18-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Hoghan Dr	12/2015	n/a	$89,720	Replace 18-1", 3-1.5", and 2-2" (23 total) residential services north of Keim Dr between 44th St and 40th St. These services are a priority for replacement because they are galvanized steel pipe and will be about 58 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth See Section 1 narrative and Map No. S-2 in Exhibit CC-1-C for more detail.

S-3	333	service lines	55	52-1" 3-1.5"	Copper	1"-$3,881 1.5"-$3,947	Lincoln Dr	12/2015	n/a	$213,642	Replace 52-1" and 3-1.5" (55 total) resid... services north of Lincoln Dr between 40th St and Hillside Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth See Section 1 narrative and Map No. S-3 in Exhibit CC-1-C for more detail.
S-4	333	service lines	45	37-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Highlands Dr	12/2015	n/a	$175,362	Replace 37-1", 5-1.5", and 3-2" (45 total) residential services on Highlands Dr and Lamar Rd between 40th St and Hillside Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-4 in Exhibit CC-1-C for more detail.
S-5	333	service lines	47	39-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Upper Ridge Way	12/2015	n/a	$183,124	Replace 39-1", 5-1.5", and 3-2" (47 total) residential services on Lakeside Ln and Sandy Mountain Rd between 40th St and Upper Ridge Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-5 in Exhibit CC-1-C for more detail.
Total			209							$813,727	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 1-2

2016 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-6	333	service lines	35	29-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Black Rock Trl	12/2016	n/a	$136,356	Replace 29-1", 4-1.5", and 2-2" (35 total) residential services along Black Rock Trl and Clearwater Pkwy north of Lakeside Ln. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-6 in Exhibit CC-1-C for more detail.
S-7	333	service lines	31	25-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Red Ledge Dr	12/2016	n/a	$120,833	Replace 25-1", 4-1.5", and 2-2" (31 total) residential services along Red Ledge Dr, Clearwater Pkwy, and Highcliff Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 56 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-7 in Exhibit CC-1-C for more detail.

S-8	333	service lines	36	30-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Praying Monk Rd	12/2016	n/a	$140,237	Replace 30-1", 4-1.5", and 2-2" (36 total) residential and commercial services along Praying monk Rd, Joshua Tree Ln, and Lincoln Dr between Tatum and Desert Fairways. These services are a priority for replacement because they are galvanized steel pipe and will be about 62 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-8 in Exhibit CC-1-C for more detail.
S-9	333	service lines	43	42-1" 1-2"	Copper	1"-$3,881 2"-$4,013	Camelback Inn	12/2016	n/a	$166,940	Replace 42-1" and 1-2" (43 total) residential and commercial services in the Camelback Inn north of Lincoln. These services are a priority for replacement because they are galvanized steel pipe and will be about 50 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-9 in Exhibit CC-1-C for more detail.
S-10	333	service lines	40	38-1" 2-2"	Copper	1"-$3,881 2"-$4,013	Lost Dutchman Dr	12/2016	n/a	$155,364	Replace 38-1" and 2-2" (40 total) residential and commercial services along Lost Dutchman Dr, Smoke Tree Ln, Cactus Wren Rd, and 59th St. These services are a priority for replacement because they are galvanized steel pipe and will be about 52 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-10 in Exhibit CC-1-C for more detail.
S-11	333	service lines	27	24-1" 3-2"	Copper	1"-$3,881 2"-$4,013	Berridge Ln	12/2016	n/a	$104,980	Replace 24-1" and 3-2" (27 total) residential and commercial services along Berridge ln and Sundown Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 58 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-11 in Exhibit CC-1-C for more detail.
Total			212							$824,710	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 1-3

2017 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-12	333	service lines	38	34-1" 4-1.5"	Copper	1"-$3,881 1.5"-$3,947	Cattletrack Rd	12/2017	n/a	$147,734	Replace 34-1" and 4-1.5" (38 total) residential and commercial services between Cattletrack Rd, 74th St, Lincoln Dr, and Whispering Winds Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 40 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-12 in Exhibit CC-1-C for more detail.
S-13	333	service lines	33	29-1" 4-2"	Copper	1"-$3,881 2"-$4,013	73rd Way	12/2017	n/a	$128,330	Replace 29-1" and 4-2" (33 total) residential and commercial services between 73rd Way, Scottsdale Rd, Lincoln Dr, and Citrus Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 45 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-13 in Exhibit CC-1-C for more detail.

S-14	333	service lines	33	33-1"	Copper	1"-$3,881	Balfour Rd	12/2017	n/a	$128,066	Replace 40-1" residential services south of Vista Dr between 68th St and Scottsdale Rd. These services are a priority for replacement because they are galvanized steel pipe will be about 59 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-14 in Exhibit CC-1-C for more detail.
S-15	333	service lines	21	16-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Paradise Canyon Rd	12/2017	n/a	$81,959	Replace 16-1", 3-1.5", and 2-2" (21 total) residential services along Las Brisas Ln and Paradise Canyon Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 46 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-15 in Exhibit CC-1-C for more detail.
S-16	333	service lines	22	17-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	54th St	12/2017	n/a	$85,840	Replace 17-1", 3-1.5", and 2-2" (22 total) residential services along 54th St, Desert Park Ln, Roadrunner Rd, and Desert Vista Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 43 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-16 in Exhibit CC-1-C for more detail.
S-17	333	service lines	32	26-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Shadow Mountain Rd	12/2017	n/a	$124,714	Replace 26-1", 4-1.5", and 2-2" (32 total) residential services between Shadow Mountain Rd, Tatum Blvd, Roadrunner Rd, and Prickly Pear Ln. These services are a priority for replacement because they are galvanized steel pipe and will be about 61 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-17 in Exhibit CC-1-C for more detail.

S-18	333	service lines	60	51-1" 6-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Crestview Dr	12/2017	n/a	$233,640	Replace 51-1", 6-1.5", and 3-2" (60 total) residential services between Desert Jewel Dr, Roadrunner Rd, Tatum Blvd, and Shadow Mountain Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 47 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-18 in Exhibit CC-1-C for more detail.
Total			**239**							**$930,283**	

Paradise Valley – AWS ID No. 0407056

SIB PLANT TABLE I, 1-4

2018 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-19	333	service lines	21	16-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Clearwater Pkwy	12/2018	n/a	$81,959	Replace 16-1", 3-1.5", and 2-2" (21 total) residential services Clearwater Pkwy and Tatum Blvd. These services are a priority for replacement because they are galvanized steel pipe and will be about 63 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-19 in Exhibit CC-1-C for more detail.
S-20	333	service lines	65	54-1" 7-1.5" 4-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Lakeside Ln	12/2018	n/a	$253,242	Replace 54-1", 7-1.5", and 4-2" (65 total) residential services along Lakeside Ln, Moonlight Way, Clearwater Pkwy, and Brookview Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 62 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-20 in Exhibit CC-1-C for more detail.

S-21	333	service lines	43	35-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Crystal Ln	12/2018	n/a	$167,600	Replace 35-1", 5-1.5", and 3-2" (43 total) residential services along Crystal Ln, Sparkling Ln, and Moonlight Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-21 in Exhibit CC-1-C for more detail.
S-22	333	service lines	45	37-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Desert Fairways Dr	12/2018	n/a	$175,362	Replace 37-1", 5-1.5", and 3-2" (45 total) residential services along Desert Fairways Dr, Palo Verde Pl, Pepper Tree Ln, and Arroyo Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 65 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-22 in Exhibit CC-1-C for more detail.
S-23	333	service lines	58	49-1" 6-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Joshua Tree Ln	12/2018	n/a	$225,878	Replace 49-1", 6-1.5", and 3-2" (58 total) residential services between Indian Bend Rd, Lincoln Dr, 60th St, and Lost Dutchman Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 60 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-23 in Exhibit CC-1-C for more detail.
Total			232							$904,042	

Paradise Valley – AWS ID No. 0407056

SIB PLANT TABLE I, 1-5

2019 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-24	333	service lines	62	51-1" 7-1.5" 4-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	51st Pl	12/2019	n/a	$241,600	Replace 51-1", 7-1.5", and 4-2" (62 total) residential services along 51st Pl, Valley Vista Ln, and Rovey Ave. These services are a priority for replacement because they are galvanized steel pipe and are will be about 66 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-24 in Exhibit CC-1-C for more detail.
S-25	333	service lines	63	63-1"	Copper	1"-$3,881	Marston Dr	12/2019	n/a	$244,490	Replace 63-1" residential and commercial services along Arroyo Verde Dr, Valley Vista Ln, and Marston Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 41 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-25 in Exhibit CC-1-C for more detail.

S-26	333	service lines	30	30-1"	Copper	1"-$3,881	Pebble Ridge Rd	12/2019	n/a	$116,424	Replace 30-1" residential services along Pebble Ridge Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 45 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-26 in Exhibit CC-1-C for more detail.
S-27	333	service lines	41	36-1" 5-1.5"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Claremont Ave and Maderos Del Cuenta Dr	12/2019	n/a	$159,443	Replace 36-1" and 5-1.5" (41 total) residential services on Claremont Ave, 42nd St, Marlette Ave, and Maderos Del Cuenta Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 41 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-27 in Exhibit CC-1-C for more detail.
Total			196							$761,957	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-1

2015 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	40	5-4" 28-6" 6-8" 1-16"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 16"-$20,046	Area north of Lincoln Dr between 40th St and 54th Pl (see map V-1 for detail)	12/2015	n/a	$203,628	Replace 5-4", 28-6", 6-8", and 1-16" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-1 in Exhibit CC-1-C for more detail.
Total			40							$203,628	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-2

2016 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-2	331	gate valves	40	5-4" 17-6" 14-8" 3-12" 1-24"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 24"-$33,246	Area south of Lincoln Dr between 40th St and Invergordon Dr (see map V-2 for detail)	12/2016	n/a	$225,795	Replace 5-4", 17-6", 14-8", 3-12", and 1-24" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-2 in Exhibit CC-1-C for more detail.
Total			40							**$225,795**	

Paradise Valley - AZ WS ID No. 0407056

SIB PLANT TABLE I, 2-3

2017 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-3	331	gate valves	40	7-4" 13-6" 12-8" 9-12" 1-24"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 24"-$33,246	Area between Desert Fairways and Mockingbird Ln north of Lincoln Dr and Invergordon Dr and Scottsdale Rd south of Lincoln Dr (see map V-3 for detail)	12/2017	n/a	$242,691	Replace 7-4", 13-6", 12-8", 9-12", and 1-24" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-3 in Exhibit CC-1-C for more detail.
Total			40							$242,691	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-4

2018 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-4	331	gate valves	40	11-4" 20-6" 7-8" 1-12" 1-16"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 16"-$20,046	Area south of McDonald Dr between Invergordon Dr and Scottsdale Rd (see map V-4 for detail)	12/2018	n/a	$204,380	Replace 11-4", 20-6", 7-8", 1-12", and 1-16" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-4 in Exhibit CC-1-C for more detail.
Total			40							$204,380	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-5

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-5	331	gate valves	40	1-4" 15-6" 20-8" 3-12" 1-24"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 24"-$33,246	Area east of Scottsdale Rd (see map V-5 for detail)	12/2019	n/a	$229,975	Replace 1-4", 15-6", 20-8", 3-12", and 1-24" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-5 in Exhibit CC-1-C for more detail.
Total			40							$229,975	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-1

2015 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-1	331	Distribution Main	2,179 LF	6"	PVC	$208	Pasadena Loop	12/2015	n/a	$454,179	Replace 2,179 LF of existing main with 6" PVC in Pasadena Ave, 70th St, 70th Pl, 1st St, and 71st Pl. Ln. The main was installed in 1951 and the existing pipe material is a combination of asbestos-cement and galvanized steel which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-1 in Exhibit CC-1-C for more detail.
Total			2,088 LF							$454,179	

Paradise Valley – AWS ID No. 0407056

SIB PLANT TABLE I, 3-2

2016 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-2	331	Distribution Main	1,462 LF	6"	PVC	$192	Mariposa Dr	12/2016	n/a	$280,944	Replace existing main in 69th Pl, Mariposa Dr, 69th St, 70th St, and Rancho Vista Dr with 1,462 feet of 6" main. The main was installed in 1954 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-2 in Exhibit CC-1-C for more detail.
WM-3	331	Distribution Main	520 LF	4"	PVC	$126	Silvercrest Way	12/2016	n/a	$65,670	Replace existing main in Silvercrest Way between Clearwater Hills Tanks 1 and 3 with 520 feet of 4" main. The main was installed in 1953 and the existing pipe material is asbestos-cement. This main is currently known to be leaking, but requires Clearwater Hills Tanks 1 and 3 be temporarily shut down in order to be replaced. Replacing the main will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-3 in Exhibit CC-1-C for more detail.
Total			1,982 LF							$346,614	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-3

2017 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-4	331	Distribution Main	1,700 LF	6"	PVC	$171	Starlight Way	12/2017	n/a	$291,500	Replace existing main in Starlight Way between Cameldale Way and Superstition Ln with 1,700 feet of 6" main. Most of this main was installed in 1953 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-4 in Exhibit CC-1-C for more detail.
Total			1,700 LF							$291,500	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-4

2018 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has wom out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-5	331	Distribution Main	1,530 LF	6"	PVC	$180	Horseshoe Ln	12/2018	n/a	$274,802	Replace existing main in Horseshoe Ln and 66th Ln with 1,530 feet of 6" main. The main was installed in 1953 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-5 in Exhibit CC-1-C for more detail.
WM-6	331	Distribution Main	500 LF	6"	PVC	$175	Quail Run	12/2018	n/a	$87,340	Replace existing main in the rear lot easement between Quail Run and Quail Pl with with 500 feet of 4" main in Quail Run. The main was installed in 1955 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and increase system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-6 in Exhibit CC-1-C for more detail.
Total			2,030 LF							$362,142	

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-5

2019 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-7	331	Distribution Main	525 LF	6"	PVC	$173	68 Pl and Chaparral	12/2019	n/a	$90,943	Replace existing main on Chaparral Rd and 68th Pl with 525 feet of 6" main. The main was installed in 1958 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-7 in Exhibit CC-1-C for more detail.
WM-8	331	Distribution Main	246 LF	4"	PVC	$165	Sierra Vista	12/2019	n/a	$40,493	Replace existing main in Sierra Vista with 246 feet of 4" main. The main was installed in 1960 and the existing pipe material is galvanized steel which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-8 in Exhibit CC-1-C for more detail.

WM-9	331	Distribution Main	655 LF	4"	PVC	$142	Tamanar Dr	12/2019	n/a	$92,934	Replace existing main in the four cul-de-sacs on Tamanar Dr with 655 feet of 4" main. The main was installed in 1960 and the existing pipe material is galvanized steel which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-9 in Exhibit CC-1-C for more detail.
Total			**1,426 LF**							**$224,369**	

SIB Table II Template

(Exhibit CC-3-A)

EPCOR Water (USA) Inc.

Mohave Water District

PWS ID No. 08-032, 08-333, 08-068

February 28, 2014

Water System Name and PWS ID No. 08-032, 08-333, 08-068
SIB PLANT TABLE II (Page 1 of 2)
Information to be included with SIB-Eligible Completed Project Filings

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			Original Plant (Plant Being Retired)			
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Installed Pipe/Plant Length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (actual cost)		In-Service Date (provide ADEQ AOC and other related approvals by state and/or federal agencies when applicable; pictures of installed plant)	Subtotal Actual Cost (by NARUC Acct No)	Subtotal Actual Cost (by project)	Actual Retirement Date	Original In-Service Date	Original Cost	Accumulated Depreciation Reserve (as of the actual retirement date)
										Total Actual Cost				

Water System Name and PWS ID No. 08-032, 08-333, 08-068
SIB PLANT TABLE II (Page 2 of 2, Summary)

Information to be included with SIB-Eligible Completed Project Filings

Project No.	Project Description	Estimated Cost (from TABLE I)	Actual Cost	The project cost to be used in calculating the SIB Revenue Requirement shall be the lesser of the actual project cost listed in SIB Plant Table II or 110 percent of the estimated cost listed in SIB Plant Table I as approved in Decision No. _____. Unit costs shall be used if actual units constructed are less than estimated in SIB Plant Table I.
Total Cost				

SIB Table II Template

(Exhibit CC-3-B)

EPCOR Water (USA) Inc.

Sun City Water District

PWS ID No. 07-099

February 28, 2014

Water System Name and PWS ID No. 07-099

SIB PLANT TABLE II (Page 1 of 2)

Information to be included with SIB-Eligible Completed Project Filings

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			Original Plant (Plant Being Retired)			
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Installed Pipe/Plant Length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (actual cost)		In-Service Date (provide ADEQ AOC and other related approvals by state and/or federal agencies when applicable; pictures of installed plant)	Subtotal Actual Cost (by NARUC Acct No)	Subtotal Actual Cost (by project)	Actual Retirement Date	Original In-Service Date	Original Cost	Accumulated Depreciation Reserve (as of the actual retirement date)
										Total Actual Cost				

Water System Name and PWS ID No. 07-099
SIB PLANT TABLE II (Page 2 of 2, Summary)

Information to be included with SIB-Eligible Completed Project Filings

Project No.	Project Description	Estimated Cost (from TABLE I)	Actual Cost	The project cost to be used in calculating the SIB Revenue Requirement shall be the lesser of the actual project cost listed in SIB Plant Table II or 110 percent of the estimated cost listed in SIB Plant Table I as approved in Decision No. _____. Unit costs shall be used if actual units constructed are less than estimated in SIB Plant Table I.
	Total Cost			

SIB Table II Template

(Exhibit CC-3-C) EPCOR

Water (USA) Inc.

Paradise Valley Water District

PWS ID No. 0407056

February 28, 2014

Water System Name and PWS ID No. 0407056

SIB PLANT TABLE II (Page 1 of 2)

Information to be included with SIB-Eligible Completed Project Filings

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			Original Plant (Plant Being Retired)			
Project No.	309 Supply Mains 331 T&D Mains 333 Services 334 Meters 335 Hydrants	Description	Installed Pipe/Plant Length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (actual cost)		In-Service Date (provide ADEQ AOC and other related approvals by state and/or federal agencies when applicable; pictures of installed plant)	Subtotal Actual Cost (by NARUC Acct No)	Subtotal Actual Cost (by project)	Actual Retirement Date	Original In-Service Date	Original Cost	Accumulated Depreciation Reserve (as of the actual retirement date)
										Total Actual Cost				

Water System Name and PWS ID No. 0407056
SIB PLANT TABLE II (Page 2 of 2, Summary)

Information to be included with SIB-Eligible Completed Project Filings

Project No.	Project Description	Estimated Cost (from TABLE I)	Actual Cost	The project cost to be used in calculating the SIB Revenue Requirement shall be the lesser of the actual project cost listed in SIB Plant Table II or 110 percent of the estimated cost listed in SIB Plant Table I as approved in Decision No. _____. Unit costs shall be used if actual units constructed are less than estimated in SIB Plant Table I.
Total Cost				

System Improvements Benefit ("SIB")
Plan of Administration ("POA")
(Exhibit CC-4)

EPCOR Water

February 28, 2014

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EXHIBITS

SIB PLANT TABLE I ..... Exhibit CC-2-A,B,C

SIB PLANT TABLE II ..... Exhibit CC-3-A,B,C

SIB SCHEDULE A - CALCULATION OF OVERALL SIB REVENUE REQUIREMENTS AND EFFICIENCY CREDIT ..... Exhibit CC-4-A

SIB SCHEDULE B - CALCULATION OF SIB TRUE-UP REVENUE REQUIREMENTS ADJUSTMENT ..... Exhibit CC-4-B

SIB SCHEDULE C - TYPICAL BILLS ANALYSIS ..... Exhibit CC-4-C

SIB SCHEDULE D - SUMMARY OF REVENUE AND RATE BASE IMPACTS INCLUDING EARNINGS TEST ..... Exhibit CC-4-D

I. GENERAL DESCRIPTION

This document is the Plan of Administration ("POA") for the System Improvement Benefits ("SIB") Mechanism approved for EPCOR Water's _____ Water District ("Company") by the Arizona Corporation Commission ("ACC" or "Commission") in Decision No. _____ on _____. The SIB provides for recovery of the capital costs (return on investment, income taxes and depreciation expense) associated with distribution system improvement projects listed in SIB Plant Table I that have been verified to be completed,[1] net of associated retirements and placed in service per SIB Plant Table II and where costs have not been included in rate base for recovery in Decision No._____. Any expenditures offset by contributions in aid of construction or advances in aid of construction are not eligible for inclusion in the SIB.

II. DEFINITIONS

- NARUC – National Association of Regulatory Utility Commissioners
- SIB – System Improvement Benefit mechanism to be implemented between rate proceedings to support investment in plant recorded in SIB Eligible NARUC accounts.
- SIB Eligible Plant – Investments in plant recorded in SIB Eligible NARUC accounts.
- SIB Eligible NARUC accounts:
  - NARUC Account No. 309 – Supply Mains
  - NARUC Account No. 331 – Mains
  - NARUC Account No. 333 – Services
  - NARUC Account No. 334 - Meters and Meter Installations;
  - NARUC Account No. 335 – Hydrants
- SIB Plant Table I (Exhibit CC-2)[2] – The schedule of planned SIB eligible projects approved in the Company's most recent rate case decision.
- SIB Plant Table II (Exhibit CC-3) – The schedule of completed and verified SIB eligible projects from SIB Plant Table I and associated retirements.

[1] Acceptable form of verifications may include the Maricopa County Environmental Services Department Approval of Construction, Professional Engineer's Certificate of Completion, etc.
[2] See Company filing of March 7, 2014.

- Total Revenue Requirement – The revenue requirement approved in Decision No. _____, plus the SIB Revenue Requirement.

- SIB Revenue Requirement – The revenue requirement equal to the return on investment, income taxes and depreciation expense necessary to support the SIB Plant Table II amounts.

- SIB Revenue Requirement Efficiency Credit – An amount equal to 5 percent of the SIB Revenue Requirement.

- SIB Authorized Revenue – Amount equal to the SIB Revenue Requirement less the SIB Revenue Requirement Efficiency Credit plus any SIB True up Adjustment.

- Gross SIB Surcharge – Amount to be shown on customers' bills based on meter sizes without consideration to the SIB Surcharge Efficiency Credit.

- SIB Surcharge Efficiency Credit – An amount equal to 5 percent of the Gross SIB Surcharge to be shown on customers' bills.

- SIB Surcharge – The amount equal to the Gross SIB Surcharge less the SIB Surcharge Efficiency Credit to be charged based on meter size, calculated to recover the SIB Authorized Revenue, to be shown on the customers' bills.

- SIB True-up Adjustment – An amount to adjust for over or under collection of the SIB Authorized Revenues as compared with the total SIB Surcharges collected for the preceding 12 month period. Each true-up shall also analyze the cumulative over or under collections to include a comparison of all past SIB Authorized Revenues, total SIB Surcharge collections, and prior true-ups to be used in calculation of the SIB true-up surcharge or credit.

III. SIB RELATED FILINGS

A. Progress Reports – Once a SIB is approved in a decision, the Company must file with Docket Control semi-annual status reports delineating the status of all SIB Eligible Plant, on a project by project basis as listed in SIB Plant Table I, starting 6 months after the decision and every 6 months thereafter.

B. Reconciliation and True Up – Once a SIB Surcharge is implemented, the Company must file annually to true up its SIB Surcharge collections over the preceding twelve months with the SIB Authorized Revenue for that period and establish a surcharge or credit to true up over or under collections, regardless of

whether it seeks a new surcharge. The filing dates for these annual true-ups shall be as established in the Commission's Decision approving the SIB Surcharge.

C. SIB Surcharge Requests – To obtain its SIB Surcharge the Company must file the following:

1. SIB Plant Table II (with supporting information and documentation), showing the SIB eligible projects completed for which the Company seeks cost recovery. Such projects must

   a) be projects listed in the Company's initial SIB Plant Table I, approved in Decision No._____, or have been added to said SIB Plant Table I pursuant to Section V of this POA;

   b) have been completed by the Company;

   c) have been verified; and

   d) be actually serving customers.

2. A summary of Commission approved SIB-eligible projects contemplated for the next twelve (12)-month SIB surcharge period from SIB Plant Table I.

3. SIB Schedule A (sample attached as Exhibit CC-4-A), showing a calculation of the SIB Revenue Requirement and SIB Revenue Requirement Efficiency Credit, SIB Authorized Revenue, Gross SIB Surcharge, SIB Surcharge Efficiency Credit, and the SIB Surcharge. Schedule A shall be supported by revenue requirements schedules supporting the revenue requirements in Decision No. _____ and the pro-forma revenue requirements including the effects of SIB Eligible Plant.

4. Schedule B (sample attached as Exhibit CC-4-B) showing the overall SIB True-up Adjustment calculation for the prior twelve-month SIB Surcharge period, as well as the individual SIB True-up Adjustment for each meter size.

5. SIB Schedule C (sample attached as Exhibit CC-4-C) showing the effect of the SIB Surcharge on a typical residential customer bill for both median and average usage.

6. SIB Schedule D (sample attached as Exhibit CC-4-D) which shall include an analysis of the impact of the SIB Eligible Plant on the fair value rate

base, revenue, and the fair value rate of return. The Company shall also file the following:

a) the most current balance sheet at the time of the filing;

b) the most current income statement;

c) an earnings test schedule;

d) a rate review schedule (including the incremental and pro forma effects of the proposed increase);

e) an adjusted rate base schedule; and

f) a Construction Work in Progress ledger (for each project showing accumulation of charges by month and paid vendor invoices).

D. The Company will maintain and provide Excel schedules with formulae intact supporting the revenue requirements approved in the rate decision that approved the SIB and provide same Excel schedules to incorporate the effects of SIB Eligible Plant for the current SIB Surcharge Request and any previously approved Surcharge and True-up requests.

E. The Company may make its initial SIB Surcharge Request through Docket Control no earlier than twelve months after the entry of Decision No._____.

F. The Company may make no more than one SIB Surcharge Request every twelve months with no more than five SIB Surcharge Requests between rate case decisions. A True-up must be filed with each Surcharge Request, except the first.

G. Unless otherwise authorized by the Commission, the Company shall be required to file its next general rate case no later than June 30, 2019, with a test year ending no later than December 31, 2018.

H. Any SIB Surcharges that are in effect shall be reset to zero upon the date new rates become effective in the Company's next general rate case.

I. The Company may request to add Plant to SIB Table I only under emergency circumstances. Any additions or modifications to SIB Plant Table I must be approved by the Commission.

IV. SURCHARGE CALCULATIONS

A. Calculations of Amounts to Be Collected By the SIB Surcharge

1. The amount to be collected by the SIB Authorized Revenue shall be equal to the SIB Revenue Requirement minus the SIB Revenue Requirements Efficiency Credit plus any SIB True up Adjustment.
For purposes of calculating the SIB Revenue Requirement:

   a. The required rate of return is equal to the overall rate of return authorized in Decision No. _____.

   b. The gross revenue conversion factor/tax multiplier is equal to the gross revenue conversion factor/tax multiplier approved in Decision No. _____; and

   c. The applicable depreciation rate(s) is equal to the depreciation rate(s) approved in Decision No. _____.

2. The project cost to be used in calculating the SIB Revenue Requirement shall be the lesser of the actual project cost listed in SIB Plant Table II or 110 percent of the estimated cost listed in SIB Plant Table I as approved in Decision No. _____. Unit costs shall be used if actual units constructed are less than estimated in SIB Plant Table I.

3. The amount to be collected by each SIB Surcharge Request shall be capped annually at five percent of the revenue requirement authorized in Decision No. _____.

B. Reconciliation And True-Ups

1. The revenue collected by the total SIB Surcharges over the preceding twelve months shall be trued-up and reconciled with the SIB Authorized Revenue for that period.

2. A new SIB Surcharge shall be combined with an existing SIB Surcharge such that a single SIB surcharge and SIB Efficiency Credit are shown on a customer's bill.

3. For each twelve (12) month period that a SIB surcharge is in effect, the Company shall reconcile the amounts collected by the SIB Surcharge with the SIB Authorized Revenue, for that twelve (12)-month period, consistent with Schedule B, attached hereto as Exhibit B.

4. Any under- or over-collected SIB Authorized Revenues shall be recovered or refunded, without interest, over a twelve-month period by means of a SIB True-up Surcharge or Credit.

5. Starting with the second annual SIB Surcharge, where there are over or under-collected balances, such over or undercollected balances shall be carried over to the next year, and considered in the calculation of the new SIB True-up Surcharge or Credit. If, after the five-year period there remains an over or undercollected balance, such balance shall be reset to zero, and addressed in the next rate case.

C. Earnings Test

1. Once a SIB Surcharge is in effect, the Company shall be required to perform an annual earnings test calculation for each SIB Surcharge Request to determine whether the actual rate of return reflected by the operating income for the affected system or division for the relevant 12-month period exceeded the most recently authorized fair value rate of return for the affected system or division.

2. The earnings test shall be:

a) based on the most recent available operating income,

b) adjusted for any operating revenue and expense adjustments adopted in the most recent general rate case; and

c) based on the rate base adopted in the most recent general rate case, updated to recognize changes in plant, accumulated depreciation, contributions in aid of construction, advances in aid of construction, and accumulated deferred income taxes through the most recent available financial statement (quarterly or longer).

V. ADDING PROJECTS TO SIB TABLE I UNDER EMERGENCY CIRCUMSTANCES

A. The Company can seek Commission approval to add projects in SIB Plant Table I only in the event of emergency circumstances. No such changes may be made without Commission approval.

B. Any addition to SIB Plant Table I must be plant investment that maintains or improves existing customer service, system reliability, integrity and safety. Eligible plant additions are limited to plant replacement projects. The costs of extending facilities or capacity to serve new customers are not recoverable through the SIB mechanism.

C. To be eligible for SIB treatment, a project must be SIB Eligible Plant.

D. SIB Eligible Plant must satisfy at least one of the following criteria:

1. Water loss for the system exceeds ten (10) percent, as calculated by the following formula: ((Volume of Water Produced and/ or Purchased) – (Volume of Water Sold + Volume of Water Put to Beneficial Use)) divided by (Volume of Water Produced and/or Purchased). If the Volume of Water Put to Beneficial Use is not metered, it shall be established in a reliable, verifiable manner.

2. Plant assets that have remained in service beyond their useful service lives (based on the Company's system's authorized utility plant depreciation rates) and are in need of replacement due to being worn out or in a deteriorating condition through no fault of the Company;

3. Any other engineering, operational or financial justification supporting the need for a plant asset replacement, other than the Company's negligence or improper maintenance, including, but not limited to:

a. A documented increasing level of repairs to, or failures of, a plant asset justifying its replacement prior to reaching the end of its useful service life (e.g. black poly pipe);

b. Assets that are required to be moved, replaced or abandoned by a governmental agency or political subdivision if the Company can show that it has made a good faith effort to seek reimbursement for all or part of the costs incurred.

VI. RATE DESIGN

A. The SIB Surcharge rate design shall be calculated as follows:

1) The SIB Surcharge shall be a fixed monthly surcharge containing a Gross SIB Surcharge and the SIB Surcharge Efficiency Credit as its two components.

2) The SIB Surcharge shall be calculated by dividing the SIB Authorized Revenue by the number of equivalent active 5/8-inch meters at the end of the most recent twelve (12) month period, and shall increase with meter size based on the following meter capacity multipliers:

5/8-inch x ¾-inch	1.0 times
¾-inch	1.5 times
1-inch	2.5 times

1½-inch	5 times
2-inch	8 times
3-inch	16 times
4-inch	25 times
6-inch	50 times
8-inch	80 times
10-inch & above	115 times

B. The SIB Surcharge shall apply to all of the Company's metered customers, including private fire service customers.

VII. SURCHARGE IMPLEMENTATION

A. SIB surcharges shall not become effective until approved by the Commission.

B. At least 30 days prior to the SIB surcharge becoming effective, the Company shall provide public notice in the form of a billing insert or customer letter in a form acceptable to Staff. Such notice shall include the following information:

1. The individual Gross SIB Surcharge, by meter size;

2. The individual SIB Surcharge Efficiency Credit, by meter size;

3. SIB Surcharge, by meter size; and

4. Directions where the customer may obtain a summary of the projects included in the current SIB Surcharge Request, including a description of each project and its cost.

EPCOR WATER-_____Water District
Docket No. W-XXXXXX-XX-XXXX
Test Year Ended _____

Exhibit CC-4-A

SIB Schedule A

Line No.	CALCULATION OF OVERALL SIB REVENUE REQUIREMENT & EFFICIENCY CREDIT		
1	Total Authorized Revenue Requirement, Per Decision xxxxx, See Attached Schedules	TBD	
2	*SIB Revenue CAP percentage*	*5%*	*Per Year*
3	SIB Revenue CAP	TBD	
4	SIB Eligible - Per SIB Table II, net of retirements	TBD	
5	Total Revenue Requirement, (with pro forma SIB investments). See attavhed revenue requirements schedules as provided by Company	TBD	
6	SIB Revenue Requirement (line 5 minus line 1)	TBD	
7	SIB Revenue Requirement Efficiency Credit	5%	
8	SIB True-up Adjustment (from SIB Schedule B)	TBD	
9	SIB Authorized Revenue (line 6 plus line 7 plus line 8)	TBD	
10	Number of Equivalent Meters, below	TBD	
11	Charge per 5/8" meter	TBD	

	No. of Customers at Year End	Multipliers	5/8 x 3/4-inch Equivalent Meters	Fixed Surcharge	Annual Rev by Meter Size
5/8 x 3/4-inch	TBD	1	TBD	TBD	TBD
3/4-inch	TBD	1.5	TBD	TBD	TBD
1-inch	TBD	2.5	TBD	TBD	TBD
1 1/2-inch	TBD	5	TBD	TBD	TBD
2-inch	TBD	8	TBD	TBD	TBD
3-inch	TBD	16	TBD	TBD	TBD
4-inch	TBD	25	TBD	TBD	TBD
6-inch	TBD	50	TBD	TBD	TBD
8-inch	TBD	80	TBD	TBD	TBD
10-inch	TBD	115	TBD	TBD	TBD
Totals	TBD		TBD		TBD

EPCOR WATER-_____Water District
Docket No. W-XXXXXX-XX-XXXX
Test Year Ended _____

Exhibit CC-4-B

SIB Schedule B

CALCULATION OF SIB TRUE-UP REVENUE REQUIREMENTS ADJUSTMENT	YEARS 1	2	3	4	5
SIB Authorized Revenuw, Per SIB Schedule A	TBD	TBD	TBD	TBD	TBD
Total SIB Surcharges collections for Period	TBD	TBD	TBD	TBD	TBD
SIB True-Up Adjustment	TBD	TBD	TBD	TBD	TBD

Note: The Company shall also provide an analysis of cumulative over or under collections and a net amount to be included in the SIB True-up Adjustment

EPCOR WATER-_____Water District
Docket No. W-XXXXXX-XX-XXXX
Test Year Ended _____

Exhibit CC-4-C

SIB Schedule C

TYPICAL BILL IMPACTS
3/4 -Inch Customers

		Step 1			Step 2			Step 3			Step 4			Step 5		
Gallons	Per Dec. No. XXXXX(no SIB Surcharge)	Total Bill w/ SIB Year 1 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 2 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 3 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 4 *	SIB Inc.	Cumulative % Increase	Total Bill w/ SIB Year 5 *	SIB Inc.	Cumulative % Increase
0	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
1000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
2000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
3000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
4000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
5000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
6000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
7000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
8000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
9000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
10000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
11000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
12000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
13000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
14000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
15000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
20000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
25000	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Median (Cite Usage)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
MEAN (Cite Usage)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

*: Bills in Years 1-5 are net of Efficiency Credit

EPCOR WATER-_____Water District
Docket No. W-XXXXXX-XX-XXXX
Test Year Ended _____

Exhibit CC-4-D

SIB Schedule D

EARNINGS TEST

	Per Dec. No XXXXXX	SIB Step 1	SIB Step 2	SIB Step 3	SIB Step 4	SIB Step 5	Total Pro-forma with SIB
Total Operating Revenue *	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Operating Expenses	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Operations & Maintenance	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Depreciation & Amortization	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Taxes Other then Income	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Income Taxes	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Total Operating Expenses	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Operatinf Income	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rate Base	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Rate of Return on Rate Base	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Authorized Rate of Return on Rate Base	TBD	TBD	TBD	TBD	TBD	TBD	TBD

*: SIB Revenues in Years 1-5 are net of 6% Efficiency Credit

EXHIBIT
A25
ADMITTED

SIB ENGINEERING REPORT

(Exhibit CC-1-A)

EPCOR Water (USA) Inc.

Mohave Water District

Mohave System—PWSID 08-032, Desert Foothills System—08-137,

Lake Mohave System—08-062, Camp Mohave System—08-037,

Rio Vista System—08-333, and Arizona Gateway System—08-163

Revised June 11, 2014

Introduction

EPCOR Water is submitting this report as **Exhibit CC-1-A** for the direct testimony of Candace Coleman, dated March 10, 2014. The intent of this report is to support EPCOR's System Improvement Benefit (SIB) application for its Mohave Water district. Included in this report are a brief system introduction followed by detailed project justifications for asset replacement projects. Each project is accompanied by the corresponding **SIB Plant Table I.**

EPCOR Water supplies water to approximately 16,000 customers in the Mohave Water District. The distribution system is comprised of about 230 miles of pipe and 2,800 valves. The Mohave Water District is comprised of the six different public water systems (PWSs), as described in Table A, below.

TABLE A
SYSTEMS IN THE MOHAVE WATER DISTRICT

System Name	PWSID	Location	Current Rolling Annual Average Water Loss	Approximate Number of Customers	Asset Types to be Replaced
Mohave	08-032	Main part of Bullhead City including Old Bullhead City	7.6%	14,358	Services, valves, mains, and meters
Lake Mohave	08-062	Lake Mohave Highlands (north end of town)	7.7%	268	Valves
Desert Foothills	08-137	Laughlin Ranch (north end of town, east of Bullhead Parkway)	13.4%	1,074	Valves and meters
Camp Mohave	08-037	South end of town, west of Hwy 95	0.8%	70	Valves
Rio Vista	08-333	South end of town, east of Hwy 95	N/A (Water purchased from Bermuda Water Co; water loss not tracked by EPCOR)	125	Valves and meters
Arizona Gateway	08-163	Southeast corner of I-40 and Hwy 95	4.8%	339	Valves

The Bullhead City area was settled between 1942 and 1953 during the construction of the Davis Dam and the city was incorporated in 1984. The mains are largely in poor condition since many of them were installed beginning in 1955. Many leaks have been reported and repaired, and water loss historically has been between 11 and 12%, although a recent increase in asset replacements has resulted in decreased water loss. During the construction of a City sewer, considerable pumping was required to dewater the sewer trenches because of the water main leaks. Furthermore, water mains in several areas are located in rear alleys that are difficult to access for main repairs and the alleys are of insufficient width for access by emergency service vehicles. For these reasons, replacing these mains with new mains in the street is a high priority.

During the last five years, approximately $6 million was spent replacing services, meters, valves, and mains. Table B (page iv) summarizes the Company's investment for the past five years by system and asset type. This is only a small portion of the total assets that need to be replaced, and mostly addressed only the egregious and visible infrastructure failures. The rate of replacement of critical assets in this system needs to be increased to ensure the reliability of the system and to continue to decrease system water loss.

In the past, assets were replaced when there was a noticeable failure such as water surfacing. This type of reactive approach is typically more expensive as replacements usually occur in an emergency situation, sometimes requiring an interruption in water service. It may also result in water losses, overtime pay, and paying a premium for parts. Another concern, related to reactive maintenance, is public health and safety. Emergency repairs may require unanticipated shutdowns of the distribution system, leaving homes and possibly fire hydrants without water. Saturated soils, resulting from leaking pipes, may undermine roads, utilities and other structures.

EPCOR has developed a planned replacement approach to asset management for the future. This approach varies depending on the type of asset.

- For meter replacements, EPCOR is relying on industry-wide studies, local experience, and the Best Management Practice adopted in the tariff for meters.

- For service lateral, valve, and water main replacements, EPCOR is using an industry standard Nessie Curve that relies on infrastructure age and historical data to help predict the rate of failure that will occur in the future.

The remainder of this report will give a detailed explanation of the replacements planned for the next five years and an overview of the condition of the infrastructure in the systems comprising the Mohave Water District. Service line, valve, water main, and meter replacement projects are broken down and described by year in the SIB Plant Table I; a map and cost estimate are provided for each project. The information is organized as follows:

- Section 1 – Services
- Section 2 – Valves
- Section 3 – Mains
- Section 4 – Meters

The Table C (page v) summarizes the recommended estimated project quantities and spending per category by year in each system for the next five years. It is estimated that a total of about $9.9 million will be spent over the next five years, with an average spend of about $2 million per year. These costs are expected to vary slightly by year depending on field conditions, business requirements, and staff availability.

TABLE B
HISTORICAL REPAIRS AND REPLACEMENTS BY WATER SYSTEM

Asset Repairs and Replacements - Mohave System, 2009-2013												
Asset Type	2009		2010		2011		2012		2013		Total	
	units	$	units	$	units	$	units	$	units	$	units	$
Main Repairs (units are number of repairs)	52	$ 60,041	56	$ 35,034	24	$ 50,898	39	$ 8,307	18	$ 13,293	189	$ 167,573
Service Repairs/ Replacements	664	$ 351,384	761	$ 555,557	701	$ 356,519	584	$ 474,526	469	$ 1,206,147	3,179	$ 2,944,134
Valve Replacements	6	N/A	2	$ 13,133	7	$ 15,508	27	$ 66,729	43	$ 105,942	N/A	$ 201,312
Meter Replacements	N/A	$ 123,045	N/A	$ 477,868	N/A	$ 423,142	N/A	$ 271,730	N/A	$ 45,231	N/A	$ 1,341,017
Total		**$ 534,470**		**$ 1,081,592**		**$ 846,068**		**$ 821,292**		**$ 1,370,614**		**$ 4,654,036**

Asset Repairs and Replacements - Desert Foothills System, 2009-2013												
Asset Type	2009		2010		2011		2012		2013		Total	
	units	$	units	$	units	$	units	$	units	$	units	$
Main Repairs (units are number of repairs)		$ -		$ -		$ -	N/A	$ 1,736		$ -	N/A	$ 1,736
Service Repairs/ Replacements	138	$ 103,155	139	$ 194,845	196	$ 323,115	370	$ 523,976	N/A	$ 104,582	N/A	$ 1,249,674
Valve Replacements		$ -		$ -		$ -		$ -		$ -	0	$ -
Meter Replacements	N/A	$ -	N/A	$ -	N/A	$ -	N/A	$ 7,680	N/A	$ 177	N/A	$ 7,857
Total		**$ 103,155**		**$ 194,845**		**$ 323,115**		**$ 533,393**		**$ 104,759**		**$ 1,259,267**

Asset Repairs and Replacements - Lake Mohave System, 2009-2013												
Asset Type	**2009**		**2010**		**2011**		**2012**		**2013**		**Total**	
	units	$	units	$	units	$	units	$	units	$	units	$
Main Repairs (units are number of repairs)		$ -		$ -		$ -		$ -	N/A	$ 538	N/A	$ 538
Service Repairs/ Replacements	14	N/A	10	$ -	7	$ -	8	$ 1,178	6	$ 2,371	45	$ 3,549
Valve Replacements		$ -		$ -		$ -		$ -	5	$ 618	5	$ 618
Meter Replacements	N/A	$ -	N/A	$ -	N/A	$ -	N/A	$ 2,260	N/A	$ 294	N/A	$ 2,554
Total		**$ -**		**$ -**		**$ -**		**$ 3,437**		**$ 3,822**		**$ 7,259**

Asset Repairs and Replacements - Rio Vista System, 2009-2013												
Asset Type	**2009**		**2010**		**2011**		**2012**		**2013**		**Total**	
	units	$	units	$	units	$	units	$	units	$	units	$
Main Repairs (units are number of repairs)		$ -		$ -		$ -		$ -		$ -	0	$ -
Service Repairs/ Replacements	1	N/A	5	N/A	1	N/A	5	N/A	1	N/A	13	N/A
Valve Replacements		$ -		$ -		$ -		$ -		$ -	0	$ -
Meter Replacements		$ -		$ -		$ -		$ -		$ -	0	$ -
Total		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**		**$ -**

Asset Repairs and Replacements - Camp Mohave System, 2009-2013												
Asset Type	**2009**		**2010**		**2011**		**2012**		**2013**		**Total**	
	units	$	units	$	units	$	units	$	units	$	units	$
Main Repairs (units are number of repairs)		$ -		$ -		$ -		$ -	N/A	$ 439	0	$ 439
Service Repairs/ Replacements		$ -		$ -	3	N/A	4	$ 486	N/A	$ 1,728	N/A	$ 2,214
Valve Replacements		$ -		$ -	N/A	$ 29,700	N/A	$ 1,650	3	$ 1,056	3	$ 32,406
Meter Replacements		$ -		$ -		$ -		$ -	N/A	$ -	N/A	$ -
Total		**$ -**		**$ -**		**$ 29,700**		**$ 2,136**		**$ 3,224**		**$ 35,060**
Total - All Systems		**$ 637,625**		**$ 1,276,437**		**$ 1,198,883**		**$ 1,360,258**		**$ 1,482,419**		**$ 5,955,621**

*** N/A - Not Available**

TABLE C
PLANNED REPLACEMENTS BY WATER SYSTEM

Asset Replacements - Mohave System, 2015-2019												
Asset Type	**2015**		**2016**		**2017**		**2018**		**2019**		**Total**	
	units	$	units	$	units	$	units	$	units	$	units	$
Mains (units are in feet)	2,162	$ 566,093	3,820	$ 872,322	4,085	$ 1,126,877	4,087	$ 1,030,934	3,503	$ 992,251	17,657	$ 4,588,477
Services	274	$ 1,063,339	153	$ 593,762	102	$ 395,842	145	$ 562,716	103	$ 399,722	777	$ 3,015,382
Valves	46	$ 212,819	46	$ 217,439	46	$ 225,289	45	$ 229,658	12	$ 59,624	195	$ 944,829
Meters	1,479	$ 266,908	1,782	$ 314,733	1,638	$ 298,679	1,026	$ 191,670	11	$ 2,847	5,936	$ 1,074,837
Total		**$ 2,109,159**		**$ 1,998,257**		**$ 2,046,686**		**$ 2,014,978**		**$ 1,454,444**		**$ 9,623,525**

Asset Replacements - Desert Foothills System, 2015-2019												
Asset Type	**2015**		**2016**		**2017**		**2018**		**2019**		**Total**	
	units	$	units	$	units	$	units	$	units	$	units	$
Valves									20	$ 103,761	20	$ 103,761
Meters							431	$ 74,811			431	$ 74,811
Total		**$ -**		**$ -**		**$ -**		**$ 74,811**		**$ 103,761**		**$ 178,572**

Asset Replacements - Lake Mohave System, 2015-2019												
	2015		2016		2017		2018		2019		Total	
Asset Type	units	$	units	$	units	$	units	$	units	$	units	$
Valves									6	$ 29,115	6	$ 29,115
Total		**$ -**		**$ -**		**$ -**		**$ -**		**$ 29,115**		**$ 29,115**

Asset Replacements - Camp Mohave System, 2015-2019												
	2015		2016		2017		2018		2019		Total	
Asset Type	units	$	units	$	units	$	units	$	units	$	units	$
Valves									4	$ 19,703	4	$ 19,703
Total		**$ -**		**$ -**		**$ -**		**$ -**		**$ 19,703**		**$ 19,703**

Asset Replacements - Rio Vista System, 2015-2019												
	2015		2016		2017		2018		2019		Total	
Asset Type	units	$	units	$	units	$	units	$	units	$	units	$
Valves									2	$ 9,852	2	$ 9,852
Meters									107	$ 18,664	107	$ 18,664
Total		**$ -**		**$ -**		**$ -**		**$ -**		**$ 28,516**		**$ 28,516**

Asset Replacements - Arizona Gateway System, 2015-2019												
Asset Type	2015		2016		2017		2018		2019		Total	
	units	$	units	$	units	$	units	$	units	$	units	$
Valves									1	$ 5,201	1	$ 5,201
Total		$ -		$ -		$ -		$ -		$ 5,201		$ 5,201

Total, all systems		$ 2,109,159		$ 1,998,257		$ 2,046,686		$ 2,089,789		$ 1,640,740		$ 9,884,632

* projected service replacement costs are higher than historical replacement costs; projected costs include contractor pricing

** cost estimates are in 2014 dollars and do not account for inflation

SECTION 3 – MAINS

3.1 Overview

EPCOR's Mohave Water district includes about 230 miles of distribution main. Although the District includes multiple water systems, this section applies to the Mohave system only as all of the proposed main replacements are within this system. Much of this pipe in this system was installed in the 1950s and 1960s. Many mains have been breaking and/or leaking due to various reasons including inferior pipe material and deterioration from the aging process. Additionally, some of the pipe is located in areas where it cannot be easily accessed in the event that it needs to be repaired.

3.2 Nessie Curve

As explained in the previous two sections, a "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it; this is to say when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

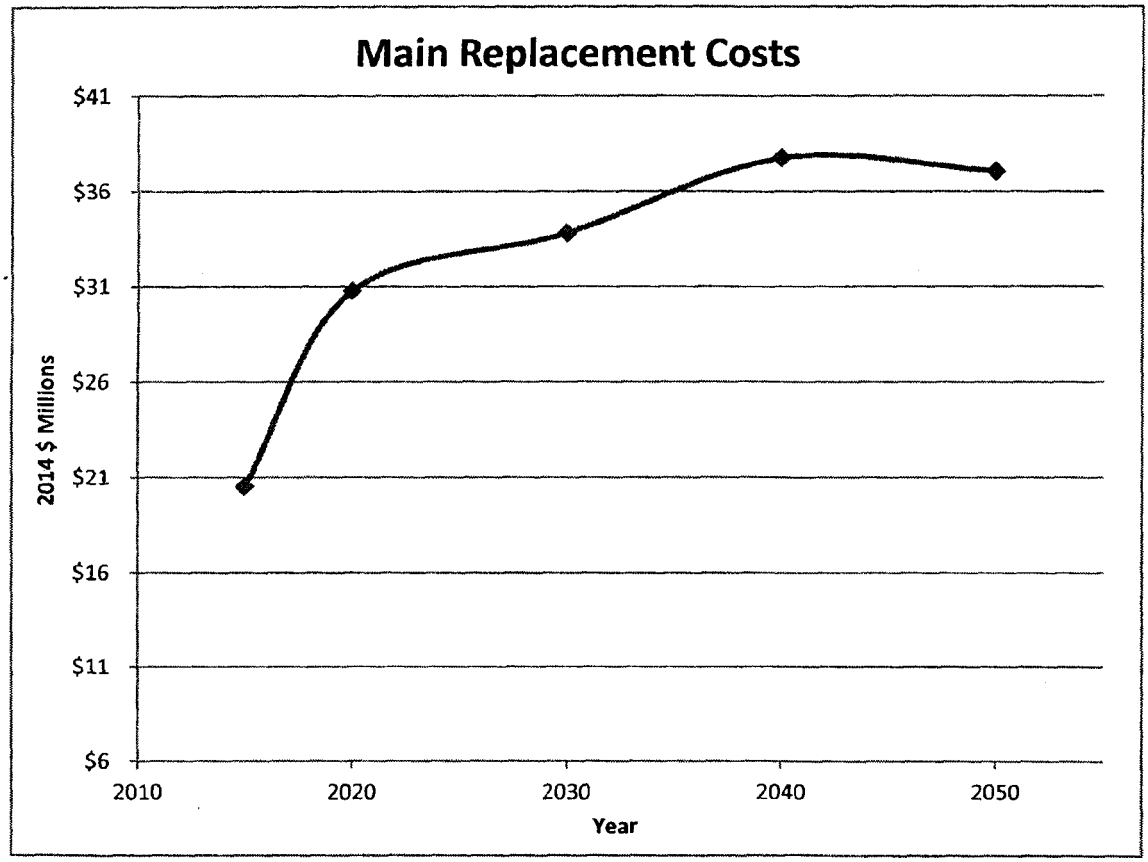
According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water

[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

Exhibit 3-1 is the Nessie curve which was developed specifically for the water distribution mains in EPCOR's Mohave district. Exhibit 3-2 shows the same data in tabular format. The curve indicates that in the next six years, from 2015 through 2020, approximately $31 million should be spent on main replacements, or about $5.1 million per year. This equates to about 19,631 linear feet (LF) of main replacements per year.

Exhibit 3-1 – Main Line Nessie Curve



[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

Exhibit 3-2 Nessie Curve Table

Time Frame	Linear Feet of Main to be Replaced	Cost to Replace Mains	Linear Feet of Main to be Replaced per Year	Cost per Year
today-2020	117,788	$ 30,781,496	19,631	$ 5,130,249
2020-2030	129,444	$ 33,827,539	12,944	$ 3,382,754
2030-2040	144,532	$ 37,770,440	14,453	$ 3,777,044
2040-2050	141,780	$ 37,051,471	14,178	$ 3,705,147

3.4 Main Material

Most of the larger diameter water mains in the Mohave system are Class 160 polyvinyl chloride (C-160 PVC) and the smaller diameter mains are thin-wall Acrylonitrile Butadiene Styrene (ABS) pipe. These materials do not meet current State standards for public water systems because of insufficient strength and consequently have resulted in many failures. New mains will be constructed using ductile iron pipe or AWWA C-900 PVC.

3.5 Main Location

The location of water mains in the Mohave system is a significant problem. Many of the mains are located in an easement at the rear of lots. These mains do not have fire hydrants, so fire protection is inadequate. Even if fire hydrants were to be installed, space is insufficient for access by emergency vehicles or service equipment through the utility easement. Currently, repair of these mains requires entering and disturbing private property which can be problematic, especially given the frequency of repairs necessary on these mains. The water mains are the last underground utility remaining in these rear easements. If the mains are relocated to the street, the homeowners will no longer need to be disturbed for utility repairs on their property.

3.6 Main Replacements

Historical main replacements and repairs from 2003 through 2013 are shown in the following tab, **Historical Repair/Replacement Data**, which includes data from all water systems in the

Mohave district. Over the past ten years, 456 water main repairs or replacements were completed. This equates to an average of approximately 46 main failures per year. Note that this does not include mains which are leaking unbeknownst to EPCOR employees. Although the Nessie curve suggests that almost 20,000 feet of pipe should be replaced per year, this would require a significant labor and capital investment by the company and would put significant financial burden on the customers. Additionally, service line replacements are the highest priority for the next few years due to the high rate of failures (see Section 1 for more information). Therefore, EPCOR proposes to spend an average of $0.9 million per year in main replacements for the next five years. This equates to a total of about 17,657 feet of main at a cost of $4.6 million.

Main replacement projects are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019**. SIB Plant Table I, 3-1 through SIB Plant Table I, 3-5 provide a detailed description of each main replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 3-1) through 2019 (Table I, 3-5). Each project addresses a set of main replacements that will occur within a defined area. Each project can also be tied to a map showing the main replacement as well as historical replacements in the area. (Historical data include only main replacements between 2003 and 2013; replacements prior to 2003 are not included.) A detailed cost estimate for each project is also provided.

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
Corner of Paseo Del Rio & Rivera Blvd		11/21/2003	4"	ABS		Break
1866 Coronado DR		12/5/2003	4"	ABS		Break
301 Santa Maria Ave		12/12/2003	3"	AC		Break
315 Santa Cruz Ave		12/12/2003	3"	AC		
Zircon Ave & Zircon Bay N.		11/17/2004	3"	ac		Broke by claw bad compaction
Zircon Ave & Emerald		11/18/2004	4"	ac		Bad backfill by condie
612 Marina Blvd		11/19/2004	4"	abs		
Whitewater & Rathke		11/23/2004	4"			Had to redo Quantum's from work Silverbutte did
Zircon & Emerald DR		11/30/2004	4"	ac		Condie bad backfill
1302 Zircon Ln		11/30/2004	4"	ac		Broke by condie
1189 Juanita Ln		12/7/2004	3"	swp		
944 San Juan Dr		12/9/2004	3"	abs		Replaced section of main and part of serv
1579 Mohave Dr	7/1/1959	1/5/2005	6"			
1861 Arcadia Bay	10/31/1968	1/13/2005	4"	CL-160		Water Hammer
1382 Arcadia Blvd	8/22/1967	1/13/2005	6"	CL-160		Water Hammer
Silica Ave & Silica Cir	5/7/1969	1/13/2005	4"	AC		Bad Backfill per claw Construction
2064 Rio Grande Rd	5/9/1980	1/15/2005	Jones head	Jones head		
3030 Locust Blvd	8/22/1967	1/15/2005	6"	Dr-26		
1757 Bluebonnet Blvd	8/22/1967	1/24/2005	4"	abs		Hit by Mohave Excavating Bucket bumped pipe
Bluebonnet& Primrose	8/22/1967	1/25/2005	6"	c-900		Mohave exposed 90' MJ 90' blew off
578 Riverview Dr	6/7/1966	1/31/2005	4"	abs		
1255 Hancock Rd		1/31/2005	4"	AC		
231 Moser Ave	5/7/1969	2/10/2005	4"	AC		Blue stake mark was off
422 Pattillo Dr	7/1/1967	3/8/2005	Jones head	AC		Helped fire department fix
2153 Rio Grande Rd	7/1/1967	3/22/2005	3"	pvc 45'		Glued fitting failed from work silver butte did rerouting main around man hole
1842 Artesia Dr	7/1/1967	3/23/2005	4"			
2078 Kingston Dr	7/1/1967	4/7/2005	3"	abs		
888 Harbor Dr	7/1/1959	4/22/2005	3"	abs		
916 Sea Spray Dr	12/31/1964	4/28/2005	3"	SWP		
3073 Oak Place	7/1/1972	6/6/2005	4"	Conduit		
1329 Newberry Dr	8/22/1967	6/21/2005	2"	Grey plastic		
3031 Rosewood ave	1/19/1966	6/21/2005	4"	Blue CL160		
1672 Shamrock Rd	8/22/1967	8/4/2005	4"	Jones head		
1764 Elmonte dr	1/16/1968	8/10/2005	4"	ABS		
1790 Sea Breeze ln	1/16/1968	9/2/2005	3"	SWP		
731 Swan Dr	1/19/1966	9/6/2005	3"	abs		
1848 Coronado Dr	7/1/1967	9/14/2005	6"	sch 40		tighten clamp
2070 Kingston Dr	7/1/1967	9/14/2005	3"	abs		
1219 Paseo Del Mar	1/19/1966	9/23/2005	3"	abs		
Avalon & Coral Reef	7/1/1967	9/26/2005	3"	abs		Hit main with shovel, Small split
Avalon & Hualapai Dr	7/1/1982	9/26/2005	3"	abs		Did not charge contractor on this Break, Next time will be charged
1169 Mohave Dr	1/19/1966	9/28/2005	3"	abs		
1866 Coronado Dr		10/28/2005	4"	SWP		
1768 Diamond Dr	7/1/1959	11/7/2005	4"	abs		Hit by Northern Pipeline they were at fault
1809 Arrowhead Dr	7/1/1967	12/12/2005	4"	Abs		
4921 La Riqueza Dr	7/1/1967	12/18/2005	6"	AC		

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1453 Luna Ln	7/1/1967	1/2/2006	4"	AC		Area was not marked
1854 Coronado Dr	6/2/1970	1/2/2006	4"	SWP		Tied onto Sch 40 both sides
Zircon Ave & Zircon Cir	6/2/1970	1/4/2006	4"	AC		Bad compaction By Condie
Zircon Ave & Zircon LN	6/2/1970	1/4/2006	4"	AC		Bad compaction By Condie
Riverview & Hermosa	7/1/1970	1/5/2006	4"	Pvc		Replaved gate valve
Zircon Ave & Zircon Cir	6/2/1970	1/5/2006	4"	AC		Bad compaction By Condie Broke at a different location
Locust Blvd & Heather	7/1/1959	1/18/2006	4"	Conduit		Claw Construction Mark was off, **** We need to abandon this section of main
1848 Coronado Dr	3/2/1971	1/30/2006	4"	SWP		
4921 La Riqueza RD	6/2/1970	2/4/2006	6"	AC		Salt cedar tree
1850 Club House Dr	9/3/1971	2/7/2006	6"	C-900		Contractor was digging to close to End Cap Blow Off, East Shores Villas #2
1740 Alta Vista	10/28/1975	2/11/2006	12"	AC		Home owner broke off coupling with Backhoe
Tamark / Locust	9/3/1971	2/14/2006	4"	CL-160		Replaced section and saddle, Mismarked hit by Claw
625 Locust Way	6/2/1970	2/23/2006	4"	CL-160		Mismarked hit by Claw
1906 Coronado Dr	9/3/1971	2/28/2006	4"	SWP		
553 Locust Ct	10/28/1975	3/1/2006	4"	CL-160		Mark was good hit by condie
1472 Summit Ln	6/2/1970	3/5/2006	4"	AC		Bean Break
3013 Hickory St	6/2/1970	3/6/2006	4"	CL-160		See Report
Oak Ave & Oak Pl	6/2/1970	3/9/2006	6"	CL-160		Replaced section and saddle, Mark was good hit by Condie
Mulberry & Larkwood	6/2/1970	3/15/2006	4"	CL-160		Replaced section with C-900 Mismaked
3073 Oak PL	7/1/1970	3/15/2006	4"	CL-160		Replaced section & Saddle
3066 Hickory	6/2/1970	3/20/2006	4"	CL-160		Broke while backfilling, with compactor whee
3172 Larkwood Ave	10/28/1975	3/27/2006	4"	CL-160		Bad Backfill by claw
668 Hickory St	7/6/1982	3/30/2006	4"	CL-160		Mismarked hit by Claw
Robin & Larkwood	6/2/1970	3/30/2006	4"	CL-160 DR26		
Oak Ave & Mulberry	3/2/1971	4/11/2006	6"	CL-160		Marks were good but destroyed by Claw
2395 Rio Dr	7/6/1982	5/1/2006	4"	ABS		Replaced section
2395 Rio Dr	9/3/1971	5/2/2006	4"	Abs		Retighten clamp[
3066 Oak Cir	9/3/1971	5/9/2006	4"	CL-160		Marks were good
3096 Mullberry Dr	7/1/1967	5/9/2006	4"	CL-160		Due to rock on pipe
Rio & Ripple	8/8/1985	5/11/2006	4"	ABS		Replaced male adapter going into tee, installed Valve
233 Santa Cruz	7/1/1967	5/18/2006	3"	AC		Digging without bluestake marks
2438 Lakeside Dr	10/28/1975	5/20/2006	4"	AC		Clamp
Mulberry Booster site	10/28/1975	5/23/2006	4"	CL-160		Clamp, Line inside sute
2088 Catalina Dr		5/26/2006	6"	Abs		Replaced section
1848 Coronado Dr	2/1/1999	5/27/2006	4"	Swp		Pinhole
231 Moser Ave	7/1/1967	5/31/2006	4"	AC		Bad Compaction bY Wescor General Digging for their sewer Laterial
2584 Via Arroyo	7/1/1988	6/5/2006	4"	AC		
231 Moser Ave	1/16/1968	6/15/2006	4"	AC		Bad backfill
827 Stahlman Dr	7/1/1970	6/23/2006	6"	PVC		
1872 El Dorado Dr	7/1/1980	6/23/2006	4"	Pvc		Bluestake marks off
Locust Blvd & Oak Ave	7/1/1967	6/26/2006	4"	Jones Head		Drove off with hose hooked to Jones head
3151 Mullberry Ct	7/1/1967	6/28/2006	4"	CL-160		Marks were good. Claw at fault

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1815 Verano Dr	7/1/1967	7/11/2006	4"	CL-160		
201 Tedford Ave	7/1/1967	7/14/2006	3"	Pvc		
2045 Gregg Ln	7/1/1959	7/18/2006	3"	abs		
Arena & Arcadia	7/1/1960	7/19/2006	6"	CL-160		Replaced 90' Poured concrete
1472 Summit Ln	6/7/1966	7/20/2006	4"	AC		Mark was off by 2 feet
916 Sea Spray Dr	7/1/1967	7/28/2006	3"	SWP		
Summit & Dorado Dr	7/1/1959	8/1/2006	4"	AC		Bad Backfill by Mohave Excavating
Hwy 95, Silver creek	7/1/1967	8/8/2006	8"	Ac		Heavy Equipment doing work
1908 Coral Isle	7/1/1959	8/10/2006	3"	Abs		Hit while grading
1110 Copper Ct	7/1/1967	8/22/2006	8"	AC		There was a tee installed Asbuilts showed a 90'
1435 Summit Dr	12/31/1964	8/28/2006	6"	AC		Marks were good,
1435 Summit Dr	7/1/1967	8/28/2006	6"	AC		Had to redo Quantums to much force out on by Condie
1580 GoldRush Rd	7/1/1967	8/31/2006	6"	C-900		No Marks
3102 Locust Blvd	12/31/1964	8/31/2006	6"	CL-160		Clamp
Arena & Dorado	7/1/1959	9/6/2006	4"	CL-160		Marke were good, They covered marks, Pulled pipe out of valve
BHC Jr High(Bus Barn)	7/1/1967	9/8/2006	6"	AC		
Summit & Summit Cir	7/1/1967	9/8/2006	6"	AC		Marke Were Good
717 Primrose Ln	7/1/1959	9/11/2006	4"	Abs		
1854 Coronado Dr	7/1/1959	9/25/2006	4"	SWP		Hit with shovel, broke after repair
1854 Coronado Dr	7/1/1959	9/25/2006	4"	Swp		broke again later that night
1423 Dorado Cir	6/7/1966	9/26/2006	4"	CL-160		Marks were good
1059 Paradise Ln	7/1/1970	9/26/2006	4"	AC		Digging without bluestake marks
1624 Turquoise Rd	7/1/1967	9/27/2006	6"	AC		Marks were good, Small leak
Marina Parkway & Joshua	1/19/1966	10/5/2006	4"	AC		Installed main valve
Riverfront & Langford	3/17/1975	10/16/2006	8"	CL-160		Replaced section of mian and tee and installed 6" gate valve
1643 Sierra Vista	7/1/1980	10/16/2006	6"	AC		Marks were off by 6" Push rock into pipe
1341 Lause Rd	7/1/1967	10/18/2006	4"	AC		
550 Oak Ave On Locust	12/29/1980	10/27/2006	6"	CL-160		Replaced section/ Bad Backfill
Rio Vista Bay	7/1/1967	10/30/2006	4"	CL-160		Marks were off
Rio Vista Bay	7/1/1967	10/30/2006	4"	CL-160		Marks were good
Sierra Vista & Alta Vista	4/28/1972	10/30/2006	6"	AC		Bad Backfill- Main on east side crossing Sierra Vista
Sierra Vista & Alta Vista	6/7/1966	10/31/2006	6"	AC		Bad Backfill- Main on east side crossing Sierra Vista
Talc & Monte Vista Dr	7/1/1955	11/7/2006	4"	AC		Bad Backfill
Talc & Monte Vista Dr	4/28/1972	11/8/2006	4"	AC		Bad Backfill
1906 Coronado Dr	7/1/1955	11/8/2006	4"	Pvc		4" Comp/Comp Leaking , Replaced with clamp
1605 Dorado Dr	7/1/1955	11/9/2006	4"	Pvc		Marks were destroyed by contractors
1640 Monte Vista Dr	7/1/1955	11/9/2006	4"	AC		Bad Backfill
1860 Rio Vista Dr	4/28/1972	11/9/2006	4"	Pvc		Marks were good hit with shovel
1358 Arcadia Dr	4/28/1972	11/9/2006	6"	CL-160		Main was sitting on sewer pipe
590 Oak Ave		11/13/2006	6"	CL-160		Ours
Talc & Alta Vista	7/1/1955	11/16/2006	6"	AC		Bad Backfill
1860 Balsa Dr	7/1/1955	11/27/2006	4"	CL-160		Marks were good
1665 Monta Vista Dr	7/1/1955	11/27/2006	6"	AC		Bad Backfill
1687 Talc Rd	7/1/1955	11/28/2006	6"	CL-160		Dropped Big rock on pipe while backfilling
1815 Verano Dr	7/1/1955	11/29/2006	4"	CL-160		Pinhole
1744 Alta Vista Dr	7/1/1955	12/4/2006	6"	AC		Marks were good

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1740 Alta Vista Dr	7/1/1967	12/5/2006	6"	AC		Marks good but washed away from brake day before
1686 Sierra Vista Dr	7/1/1959	12/8/2006	8"	Ac		No marks whild digging
250 Moser Dr	9/3/1971	12/9/2006	4"	Ac		Hit abondon svc fixed with clamp
Alta Vista & Sierra Vista	7/1/1955	12/12/2006	6"	Ac		Bad Backfill, Broke by compactor roller (McCorrmick
1737 Dorado Dr	10/31/1968	12/13/2006	6"	CL-160		Marks were way off, 45' to cross to east side of road
1402 Luna Ln	7/1/1970	12/13/2006	6"	CL-160		Marks were off
Sierra Vista & Talc	9/3/1971	12/14/2006	6"	Ac		Bad Backfill, Broke by compactor roller (McCorrmick
1699 Sierra Vista Dr	10/31/1968	12/14/2006	8"	Ac		Bad Backfill, Broke by compactor roller (McCorrmick
Sierra Vista & Talc	8/22/1967	12/15/2006	6"	CL-160		Bad backfill
3121 Mulberry Dr	7/1/1970	12/18/2006	4"	CL-160		Clamp
1975 Talc Rd	7/1/1967	12/22/2006	6"	CL-160		Marks were good
1868 Colina Dr	7/1/1970	12/22/2006	4"	CL-160		Unmarked, Line ran further tham asbuilt shows
2179 Riviera Blvd	10/31/1968	12/28/2006	6"	Abs		Replaced section
Ramar & Rio Vista	7/1/1970	1/5/2007	6"	AC		Bad Backfill, Main crossing Ramar
1624 Alta Vista Dr	6/2/1970	1/5/2007	6"	AC		Bad backfill, Had replaced svc as well
Balsa / Arcadia	10/28/1975	1/10/2007	6"	Pvc		Marks were destroyed
Arena / Arcadia	7/1/1970	1/11/2007	6"	Pvc		Clamp
Arena / Colina	6/2/1970	1/11/2007	6"	Pvc		marks were off by 2' 6"
1620 Arriba Dr	10/28/1975	1/11/2007	6"	Pvc		Marks off by 4 Feet
2218 Bermuda Dr	8/15/1966	1/16/2007	4"	Abs		Cut out Coupling
1658 Talc Way	11/9/1987	1/16/2007	4"	Pvc		Marks were good
Balsa / Arcadia	10/28/1975	1/16/2007	4"	Pvc		Replaced Section, Hit with Shovel
Riverview & Balboa	10/28/1975	1/16/2007	4"	Pvc		Replaced gate valve Self inflicted
1682 Toro rd	10/28/1975	1/18/2007	4"	Pvc		Mark off 3 Feet
1945 Arcadia Ct	9/3/1971	1/18/2007	4"	Pvc		Replaced Section, Hit with Shovel
1713 Bluebonnet blvd	7/1/1985	1/20/2007	6"	Pvc		Replaced section
1937 Arcadia Cir	6/2/1970	1/23/2007	4"	Pvc		Marks were off
1374 Arcadia Blvd	9/3/1971	1/24/2007	6"	Pvc		Mark was good
1514 GoldRush rd	7/1/1985	1/24/2007	6"	C-900		Replaced section
1680 Monte Vista dr	7/1/1985	1/29/2007	4"	AC		Bad backfill
1467 Luna Ln	2/24/1992	1/31/2007	4"	AC		Bank caved in,
1851 Arcadia Bay	10/28/1975	2/1/2007	4"	pvc		Mark was off
568 Silver Ln	7/1/1985	2/6/2007	4"	Abs		Clamp
Newport & swan	7/1/1985	2/7/2007	4"	abs		Replaced section
1834 Hualapi dr	3/17/1975	2/7/2007	4"	Abs		Replaced section
390 Long Ave	7/1/1985	2/12/2007	4"	AC		Bank caved in,
2455 Rio Dr	7/1/1985	2/13/2007	4"	Abs		Mismarked
1659 Alta Vista Ln	7/1/1985	2/15/2007	4"	AC		Bean Break, bad compaction
1748 Dorado Dr	7/1/1959	2/19/2007	6"	Pvc		Bank caved in,
1105 Hwy 95	7/1/1959	2/20/2007	4"	AC		Hit Svc broke main, Marks were good
1805 Esclaria Cir	9/3/1971	2/26/2007	6"	Pvc		Main was overlooked by Chris
1710 Hilltop Cir	7/1/1967	2/28/2007	3"	Pvc		Marks were good
Hilltop & Agate Cir	2/24/1992	2/28/2007	6"	AC		Marks were good
1618 Hilltop Cir	7/1/1985	2/28/2007	3"	Ac		Marks were good
Fourth & Long Ave	7/1/1985	3/5/2007	4"	AC		Bad backfill
Verano & Seco	6/23/1968	3/7/2007	8"	Pvc		Exposed kicker, Caused to leak
1836 Arena Dr	7/1/1960	3/8/2007	8"	AC		Bad backfill
1342 Arcadia blvd	7/1/1967	3/10/2007	6"	Pvc		Retighten Clamp
1394 Escalara	7/1/1985	3/13/2007	8"	Pvc		Bank caved in,

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
Arena & Arcadia	2/24/1992	3/13/2007	6"	Pvc		Rock fell on pipe
Avienda Grande & Valley Vista	7/1/1967	3/13/2007	6"	AC		Hit Kicker holding 90'
1662 Alta Vista dr	7/1/1967	3/14/2007	4"	Ac		Bad backfill, main broke at saddle, Clamp, Reinstall Saddle
1720 Arriba Dr	5/9/1980	3/15/2007	6"	Pvc		Installed Bell clamp
Paseo Grande & Avienda Colibri	3/17/1975	3/19/2007	6"	AC		Marks were good
1783 Dorado Dr	7/1/1959	3/19/2007	6"	pvc		
Calle De Marcado & El Cazador	9/3/1971	3/20/2007	8"	AC		Marks were good
Canyon & Mountain Pass	7/1/1985	3/24/2007	12"	Ductile		Need to return with longer clamp
2020 Ramar Rd	7/1/1970	3/28/2007	8"	AC		Clamp
Corona Vista & Calle De Marcado	7/1/1959	3/28/2007	6"	AC		Main fell in ditch
1650 Bluebonnet blvd	12/31/1964	3/29/2007	6"	CL-160		Replaced section
Corona Vista & Calle De Marcado	2/24/1992	3/29/2007	4"	AC		Bad backfill
Corona Vista & Calle De Marcado	12/31/1964	3/29/2007	4"	AC		Bad backfill second time
Corona Vista & Calle De Marcado	9/3/1971	4/3/2007	4"	AC		Bank caved in,
835 Sea Spray Dr		4/5/2007	4"	Abs		Mismarked by mike
736 River Grandens dr	7/1/1959	4/6/2007	4"	SWP		Replaced svc along with section of main
1398 Gemini st	7/1/1967	4/11/2007	10"	C-900		Had to redo MJ fitting, Loose and was missing bolts
1896 Clearwater dr	7/1/1960	4/13/2007	4"	Abs		Replaced section
Rio Vista & Arriba dr	7/1/1967	4/13/2007	8"	Pvc		Clamp
Canyon & Mountain Pass	7/1/1970	4/18/2007	12"			Installed correct clamp
2581 Valley Vista	7/1/1960	4/18/2007	6"	Ac		Ran over Valave can, Bean Break
Corona Vista & Calle De Marcado	7/1/1967	4/23/2007	4"	Ac		Bad compaction
1386 Tuthill ln	7/1/1970	5/17/2007	4"	AC		Mark was off
Canyon & Mountain Pass	7/1/1967	6/8/2007	12"	Ductile		Clamp
1446 Horseshoe Ln	7/1/1959	6/10/2007	2"	Pvc		Replaced section
1986 Colorado Blvd	7/1/1959	6/10/2007	6"	AC		Clamp, Rerouted saddle and svc
2530 Corona Redondo	7/1/1959	6/10/2007	4"	AC		Replaced coupling with saddle
970 Bahma Cv	11/27/1986	6/27/2007	3"	Abs		
2170 Hermosa dr	7/1/1967	6/27/2007	3"	Abs		
Camino Del Rio & Lause Rd	9/3/1971	7/14/2007	6"	Pvc		
Baseline & Dean	9/3/1971	7/20/2007	6"	Pvc		
Arcadia & Arena Dr	6/7/1966	7/22/2007	6"	Pvc		
2535 Avienda Grande	6/7/1966	8/3/2007	6"	AC		Bad Backfill
1772 Corondo Dr	7/1/1967	8/14/2007	6"	Abs		Bad Bluestake
2479 Ripple dr	2/5/1973	8/15/2007	4"	Abs		Replaced section
1846 Corondo Dr	9/3/1971	8/27/2007	4"	SWP		
1235 Paseo Del Mar	7/1/1967	8/30/2007	4"	Abs		
Canyon & Mountain Pass	7/1/1967	9/1/2007	12"	Ductile		
2610 Via Arroyo	10/28/1975	9/10/2007	4"	Abs		Leak at main replaced svc
Arcadia & Arena Dr	9/3/1971	9/25/2007	6"	Pvc		
2193 Riviera Loop	7/1/1970	9/27/2007	3"	Abs		
3049 Rosewood ave	12/31/1964	10/24/2007	4"	Pvc		
3031 Hickory st	12/31/1964	11/1/2007	4"	Pvc		
3035 Rosewood ave	12/31/1967	11/12/2007	4"	Pvc		
1980 Sea Breeze Ln		12/4/2007	3"	Abs		
2236 Alpine Cove	7/1/1967	12/6/2007	4"	Abs		

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
Newberry & Hummingbird	7/1/1967	12/19/2007	4"			Jones head hit by car
2193 Rivera Loop	7/1/1985	1/16/2008	3"	Avs		
438 Moser Ave	9/3/1971	1/23/2008	4"	AC		
1450 Horseshow ln	4/28/1972	1/24/2008	2"	Conduit		
1967 Hualapai dr	12/31/1964	2/10/2008	3"	abs		
3031 Rosewood Ave	7/1/1967	2/13/2008	4"	CL 160		
2479 Ripple dr	4/28/1972	2/15/2008	4"	Abs		
733 Mimosa Trl	3/17/1975	2/17/2008	4"	abs		
1988 Coronado Dr	7/1/1967	2/26/2008	4"	Abs		
1782 Coronado Dr	7/1/1967	3/7/2008	6"	Abs		
2057 Coloado Blvd	1/2/1972	3/28/2008	6"	AC		
Hillview & BHC Parkway	10/28/1975	4/12/2008	8"	C-900		
2079 Trinidad dr	1/10/1972	4/23/2008	4"	abs		
1975 Talc Rd	1/10/1972	4/28/2008	6"	Pvc		
3030 Rosewood Ave	7/1/1959	5/1/2008	4"	Pvc		
1890 Rio Vista Dr	7/1/1967	5/5/2008	4"	CL 160		
Hwy 95	7/1/1970	5/15/2008	6"	Ductile		
1636 E Palma Cir	7/1/1970	5/19/2008	3"	AC		
1636 E Palma Cir	4/28/1972	5/19/2008	3"	AC		
Garanda & Sea Spray	1/19/1966	5/25/2008	4"	Abs		
867 Riverfront Dr	7/1/1970	7/27/2008	8"	CL 160		
1735 Rio Vista Dr	7/1/1970	7/30/2008	4"	CL 160		
2030 Swan Bay	7/1/1970	8/13/2008	3"	abs		
2024 Hualapai dr	7/1/1970	9/30/2008	3"	Abs		
1747 Bluebonnet blvd	7/1/1970	10/5/2008	6"	Abs		
1374 Arcadia Blvd	7/1/1967	10/13/2008	6"	CL 160		
Locust Ct	7/1/1959	10/21/2008	4"	CL 160		
3031 Rosewood Ave	11/9/1987	10/22/2008	4"	CL 160		
1839 Rio Vista Dr	7/1/1967	10/24/2008	4"	CL 160		
2405 Rio Dr	7/1/1970	11/4/2008	4"	Abs		
1221 Peurta Vista	7/1/1967	11/10/2008	3"	Abs		
1169 Mohave dr	7/1/1959	11/20/2008	3"	Abs		
2545 Via Arroyo	7/1/1959	12/2/2008	6"	Avc		
1347 Lause Rd	1/26/1987	12/11/2008	4"	AC		
405 Sea Spray dr	7/1/1987	12/15/2008	6"	Abs		Tighten Clamp
2011 Rio Grande rd	4/28/1972	12/19/2008	4"	Ac		
2636 Calle De Mercado	7/1/1967	12/21/2008	8"	AC		
Arena & Arcadia	7/1/1970	12/30/2008	6"	CL 160		
Gemstone Ave @ Langford	3/17/1975	1/4/2009	8"	CL-160		Replaced clamp
590 Oak Ave	7/1/1959	1/8/2009	6"	CL-160		Tighten Clamp
Puerta Vista & Via Arroyo	7/1/1967	1/15/2009	4"	Abs		
3094 Rosewood ave	7/1/1959	1/21/2009	4"	CL-160		
Riverview & Hermosa	7/1/1959	1/24/2009	4"	Abs		
927 Riverfront dr	8/22/1967	2/15/2009	8"	CL-160		
1621 Dean dr	8/22/1967	2/17/2009	6"	CL-160		
2180 Whitewater dr	8/22/1967	2/27/2009	4"	AC		
Mullberry Booster Station	7/1/1959	3/12/2009	4"	CL-160		Split at Bell Coupling
347 Meander dr	6/2/1970	3/29/2009	4"	AC		Bean Brake
3106 Locust blvd	7/1/1959	4/2/2009	6"	CL-160		
2543 Country Club Pl	4/14/1968	4/5/2009	4"	AC		Customer digging without Bluestakes.
Verano & Dorado	7/1/1970	4/13/2009	6"	Pvc		
6TH & Tedford	7/1/1970	4/13/2009	2"	Pvc		Installed 2 Ball Valve
Palm & Hacienda On 6 th street	7/1/1970	4/13/2009	4"			Bad Backfill
Sea Breeze & Surf Spray	7/1/1967	4/16/2009	3"	Abs		Replaced tee and
1925 EL Rodeo rd	7/2/1971	4/21/2009	2"	Pvc		

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LMH Booster Station	7/1/1967	4/22/2009	4"	CL-160		
3151 Sycamore Ave	7/1/1959	4/27/2009	4"	CL-160		
2071 Swan Cv	7/1/1970	5/7/2009	3"	Abs		
1092 Hwy 95	5/6/1969	5/12/2009	6"	AC		
3121 Mullberry Dr	7/1/1970	5/15/2009	4"	CL-160		
2414 Fifth St	2/5/1973	5/21/2009	4"	Ac		Bad Compaction
Glen & Langford	7/1/1967	5/25/2009	8"	CL-160		unable to get water shut off, Used valve exceriser
Trane & Ramar Rd	10/28/1975	5/26/2009	6"	AC		
Ripple	1/10/1972	5/26/2009	3"	Abs		
2478 Ripple Dr	7/1/1967	5/28/2009	4"	Abs		Broke while being exposed, not supported
2440 Ripple Dr	9/3/1971	5/28/2009	4"	Abs		Broke while backfilling
2426 Ripple Dr	4/14/1968	5/28/2009	4"	Abs		Hit With Shovel
2460 Ripple Dr	7/1/1959	6/8/2009	4"	Abs		Bad Backfill
2401 Rio Dr	4/14/1968	6/11/2009	4"	Abs		Rock fell on pipe
2071 Swan Cv	7/1/1982	6/16/2009	3"	Abs		
709 River Grandens Dr	7/1/1959	6/23/2009	4"	Abs		
251 Long Ave		7/4/2009	4"	AC		
2472 Rio Dr	4/14/1968	7/10/2009	4"	Abs		
1940 Merced Ln		7/18/2009	4"	AC		
2114 Del Ray	4/14/1968	7/19/2009	3"	Abs		
3049 Rosewood Ave	3/2/1971	8/1/2009	4"	CL-160		
1868 Coronado Dr	7/1/1995	8/25/2009	4"	SWP		
1880 Coronado Dr	4/14/1968	9/10/2009	3"	Abs		Rock fell on pipe
Riviera & Surf Spray	7/1/1959	9/29/2009	8"	Ac		Contractor hit thrust block.
2517 Camino Del Rio	7/1/1959	10/2/2009	6"	Pvc		Coupling leaking
3121 Mulberry Dr	7/1/1959	10/5/2009	4"	CL-160		
911 Riverfront Dr	3/2/1971	10/12/2009	8"	CL-160		
665 Hickory St	6/2/1970	10/26/2009	4"	CL-160		
773 Morrow CV	7/1/1955	10/27/2009	3"	Abs		
Fifth & Lee	7/1/1955	11/30/2009	3"	Pvc		Need to install and relocate 30 section of main
Yale & Roadrunner	4/28/1972	12/3/2009	6"	Pvc		
709 Rivergrandens	6/2/1970	12/8/2009	4"	Abs		
3031 Hickory St		12/10/2009	4"	CL-160		
1886 Coral Isle	9/3/1971	12/23/2009	3"	SWP		
2156 Del Ray	9/3/1971	12/29/2009	3"	Abs		
Rosewood & Oak	7/1/1970	1/3/2010	4"	CL-160		Clamp
896 San Juan Dr	7/1/1967	1/13/2010	3"	Abs		Two Clamps
896 San Juan Dr	9/22/1982	1/14/2010	3"	Abs		Two Clamps
2068 Clearwater Dr	7/1/1967	1/15/2010	4"	Abs		Clamp
4502 Patina Rd	7/2/1971	1/24/2010	4"	AC		Clamp
Yale/ Roadrunner	7/1/1960	1/26/2010	6"	Gray Conduit		Tighten Clamp
3026 Locust Blvd	7/1/1960	2/1/2010	6"	CL-160		Two Clamps
2454 Ripple Dr	7/1/1967	2/3/2010	4"	Abs		Two Quantums
3067 Hickory St	7/1/1967	3/3/2010	4"	CL-160		Clamp
Rio Vista & Toro	7/1/1967	3/8/2010	4"	Hydrant		Rebolted Hydarnt
3119 Mullberry Dr	7/1/1967	4/8/2010	4"	CL-160		Clamp
615 Sea Spray Dr	2/5/1973	4/10/2010	6"	Abs		Clamp
3023 Rosewood Ave	7/1/1967	4/19/2010	4"	CL-160		Two Clamps
1377 Lause Rd	4/14/1968	4/27/2010	4"	AC		Clamp
1830 Corona Vista	7/1/1967	4/29/2010	8"	AC		Replaced section
1840 Balsa Dr	7/1/1967	5/10/2010	4"	Pvc		Replaced section, NPL hit unmarked line
1622 Zircon ave	7/1/1967	6/3/2010	4"	Pvc		Replaced section,Two clamps, NPL hit Mismarked main

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
791 Ramar Rd	7/1/1982	6/8/2010	8"	Pvc		Two Hymax, couplings
644 Swan Dr	3/17/1975	6/10/2010	4"	Jones Head		Shut off valve to hydrant notifed Fire Department
1775 Lakeside Dr	7/1/1967	6/22/2010	6"	AC		Two Hymax, couplings
1159 Highway 95	7/1/1967	6/29/2010	4"	AC		Two Bean breaks, had to replace saddle
926 Seafair Dr	7/1/1967	7/4/2010	3"	Swp		Had trouble shutting down, pipe split after repaired
1802 Surf And Sand	4/28/1972	7/15/2010	6"	AC		Clamp
Marina & Colorado Blvd	7/1/1955	7/24/2010	6"	AC		Clamp
2469 Calle Contento	7/1/1960	7/25/2010	4"	AC		Clamp
3125 Mullberry Dr	7/1/1955	7/29/2010	4"	CL-160		Clamp
1450 Horseshoe Ln	7/1/1967	8/8/2010	2"	Pvc		Two compression coupling
1450 Horseshoe Ln	7/1/1955	8/8/2010	2"	Pvc		Pipe split while backfilling
2236 Coranado Dr	7/1/1967	8/17/2010	3"	Abs		Replaced 3" glue tee and 2" bushing
944 San Juan Dr	7/1/1959	8/25/2010	3"	Abs		Clamp
2064 Coronado Dr	7/1/1955	8/30/2010	4"	Abs		Two Quantums
2064 Coronado Dr	11/9/1987	8/30/2010	4"	Abs		Backfill cause repair to fail,
851 Ramar Rd	2/21/1966	8/31/2010	8"	CL-160		Clamp
White Sand& Swan Dr	3/2/1971	9/2/2010	3"	Abs		Unmarkes line
1472 Summit Cir	9/3/1971	9/2/2010	4"	AC		Old Clamp Broke
Coronado & Swan	7/1/1967	9/8/2010	6"	Abs		Two Clamps
2140 Coronado CV	9/3/1971	9/13/2010	3"	Abs		Hit by NPL Misamked
2140 Coronado CV	6/2/1970	9/14/2010	3"	Abs		Clamp, NPL hit while spotting for main
1185 Juanita LN	9/3/1971	9/16/2010	3"	SWP		Two Quantums
1616 Dean Dr	3/2/1971	9/22/2010	6"	CL-160		Clamp
321 Santa Maria Ave	9/3/1971	9/29/2010	3"	AC		Clamp, Bean break
731 Swan RD	7/1/1967	10/1/2010	3"	Abs		Clamp, NPL came acroos leak while putting in a gas service line
2520 Diamond Dr	9/3/1971	10/5/2010	4"	Abs		
919 Riverfront Dr		10/5/2010	8"	Pvc		Collar Clamp
2150 Swan Cv	9/3/1971	10/16/2010	3"	Abs		NPL was digging next to water main and it broke
1105 Mobile Ln	9/3/1971	11/12/2010	2"	AC		NPL hit mismaked
1344 Newberry Dr	10/28/1975	11/13/2010	3"	Pvc		Two Clamp, broke due to Tree root
1097 Mobile Ln	3/17/1975	11/23/2010	2"	AC		Two Quantums
2137 Lakeside Dr	10/28/1975	11/29/2010	6"	Abs		Clamp
1436 Paradise LN	10/28/1975	12/1/2010	6"	AC		Two Quantums, Hit by NPL
2148 Hermosa Dr	7/1/1994	12/4/2010	3"	Abs		Tree roots broke water line
1968 Sea Breeze Ln	6/2/1970	12/13/2010	3"	Abs		Clamp
1690 Sea Breeze Ln	3/2/1971	12/14/2010	3"	Abs		Reclamped
1056 Palo Verde	10/28/1975	12/16/2010	6"	AC		Clamp
265 Long Ave	7/1/1967	12/23/2010	4"	AC		Clamp
1210 Quartz ave	7/1/1967	12/27/2010	4"	AC		Clamp
2164 Highway 95	7/1/1967	1/13/2011	6"	Ductile	Replaced	Replaced section
3121 Mulberry Dr	7/1/1967	1/13/2011	4"	CL-160	Replaced	Replaced failing section of water main
2078 Kingston Dr	7/1/1982	2/3/2011	3"	Abs		Clamp
907 Riverview Dr	7/1/1967	2/28/2011	3"	Pvc		Clamp
1098 Paseo Redondo	3/17/1975	3/16/2011	6"	Pvc	Replaced	Replaced section/ bad coupling
2204 Hermosa Dr	9/3/1971	3/16/2011	4"	Abs		Clamp
1145 Highway 95	9/3/1971	5/18/2011	4"	AC		Clamp
1475 Summit	7/1/1967	6/2/2011	6"	AC		Clamp
1921 Morning Glory Trl	7/1/1967	6/9/2011	4"	Abs		Coller clamp

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1896 Diamond Dr	7/1/1967	6/22/2011	3"	Abs		Two clamps
Canyon Rd	2/24/1992	7/3/2011	12"	Ductile		Two Quantums
1772 Clearwater Dr	7/1/1969	7/20/2011	3"	Abs		Clamp
2067 Lakeside Cv	7/1/1967	8/11/2011	6"	Abs		Two Clamps, Large roots around main
1190 Juanita Ln	7/1/1967	9/5/2011	3"	Abs		Clamp
1967 W Riverbend Cir	3/17/1975	9/10/2011	4"	Ac		Installed Clamp/ leak under saddle replaced svc line
1748 Monte Vista Dr	7/1/1970	9/27/2011	6"	Pvc		Clamp
637 Citrus St	9/3/1971	9/28/2011	6"	Pvc		Coller clamp
Rio Vista/ Arcadia	7/1/1967	10/10/2011	6"	Pvc		Two Quantums
1840 Balsa Rd		10/15/2011	4"	Pvc		Two Clamps
1860 Diamond Dr	7/1/1985	10/18/2011	3"	Abs		Two Clamps
2156 Del Rey Rd	9/3/1971	11/30/2011	3"	Abs		Clamp
705 Malibu Dr	2/5/1973	12/6/2011	3"	Abs		Clamp
Canyon & Mountain Pass	7/1/1967	12/10/2011	12"		Repaired	Repaired 5 different sections
2515 Via Arroyo		12/28/2011	6"	Abs		Two clamps, cut out jones head that was leaking, BHC fire present
Locust & Heather	2/5/1973	1/3/2012	6"	CL-160		Cut out old unused Tee going to stub up Heather
2106 Balboa Dr	7/1/1996	1/28/2012	3"	Abs		Customer installed ground rod through main, installed clamp
1966 Sea Breeze Ln	7/1/1967	2/13/2012	3"	Abs		Two clamps
1083 Calle De Allergo	7/1/1967	3/12/2012	4"	Pvc		Clamp
803 Ramar Rd	7/1/1982	3/15/2012	8"	Sch 40		Two clamps
787 Ramar Rd	7/1/1955	4/5/2012	8"	Pvc		Clamp
2244 Alpine Cv	12/31/1964	5/11/2012	4"	Abs		Clamp
1808 Diamond Dr	4/28/1972	5/30/2012	3"	Abs		Clamp
3049 Rosewood Ave	7/1/1972	6/13/2012	4"	Pvc		Clamp
811 Safari Dr	12/31/1964	6/21/2012	3"	Abs		Clamp
1181 Juanita Ln	1/19/1966	6/23/2012	3"	Swp	Replaced	Replaced 3' with sch 40 and replaced 2 saddles
Joshua & Suharo	7/1/1959	6/25/2012	4"	A.C.		Section in C900 with two Quantums
2721 Camino Del Rio	7/1/1959	6/26/2012	3"	Abs		Clamp
915 Riverfront Dr	3/17/1975	6/28/2012	8"	Pvc		Clamp
2298 Redrock Rd	7/1/1959	7/12/2012	4"	A.C.		Clamp
1197 Puerta Vista	2/5/1973	7/17/2012	3"	Abs		Clamp
LMH boster site	7/1/1959	8/1/2012	4"	Pvc		Clamp
Zircon & Trane	7/1/1967	8/9/2012	4"	Pvc		Contractor his mismarked main
709 Rivergardens Dr	7/1/1967	8/10/2012	4"	Abs		
709 Rivergardens Dr	3/17/1975	8/10/2012	4"	Abs		
1653 Dean Dr	7/1/1967	8/12/2012	6"	CL-160		Clamp
3020 Larkwood Ave	4/14/1968	8/30/2012	4"	CL-160		Clamp
709 Rivergardens Dr	4/28/1972	8/30/2012	4"	Swp		Clamp
755 Riverfront Dr	7/1/1967	9/1/2012	8"	Pvc		Clamp
1877 Sea Breeze ln	7/1/1967	9/2/2012	3"	Abs		Clamp
926 Seafair Dr	7/1/1960	9/2/2012	3'	Swp		Romac couplings and 3' section pvc
3101 Mullberry Dr	7/1/1959	9/6/2012	4"	CL-160		Clamp
2074 Hualapai Dr	7/1/1967	9/18/2012	2"	Abs		Pulled tree to get to broken main repaired with compression coupling
681 Roadrunner Dr	7/1/1970	9/24/2012	6"	CL-160		Collar Clamp
2078 Kingston Dr	7/1/1967	10/10/2012	3"	Abs		Clamp
1285 Ramar Plz	7/1/1972	10/15/2012	4"	AC		Hymax couplings and 4' of c900
860 Gemstone Ave	7/1/1967	10/31/2012	6"	Pvc		replaced 25' and used 3 clamps

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1860 Diamond Dr	7/1/1967	11/1/2012	3"	Abs	Replaced	Replaced 45
785 Riverview Dr	7/1/1969	11/2/2012	3"	Abs	Replaced	replaced 90
1450 Horseshoe Ln	7/1/1967	11/8/2012	2"	Conduit		Clamp
1958 Coronado Dr	7/1/1970	12/3/2012	4"	Abs		Clamps
886 Harbor Dr	4/14/1968	12/4/2012	3"	Pvc		Clamp
4Th and Moser	7/1/1959	12/14/2012	6"	AC		2 Qauntums
1816 Colorado Rd	7/1/1967	12/21/2012	4"	AC		Clamp
1877 Sea Breeze In	7/1/1959	1/17/2013	3"	Swp	Replaced	Used 2 Romac couplings and replaced 5' of swp
665 Hickory St	7/1/1967	1/21/2013	4"	Class 160		Clamp
2070 Gregg CV	7/1/1967	1/29/2013	3"	Abs		Clamp
582 Tamerack St	7/1/1967	2/6/2013	4"	Class 160	Replaced	Replace 4' of pipe and clamped
3115 Locust blvd	7/1/1967	4/1/2013	6"	Class 160		Clamp
Sand cv & Seafair	7/1/1967	4/18/2013	2"	ABS		Clamp
973 Skippers Cv	7/1/1967	4/22/2013	2"	Abs	Replaced	replaced 2 of abs with pvc
973 Skippers Cv	7/1/1959	4/23/2013	2"	Abs		Clamp
948 Sandy Cv	7/1/1967	4/24/2013	2"	Abs		Clamp
Seafair & Sandy Cv	12/31/1967	4/24/2013	3"	Abs		Romac coupling and 2' of Pipe
1854 Coronado Dr	10/28/1975	5/3/2013	4"	Swp		Romac coupling and 2' of Pipe
2021 Colorado Dr	7/1/1967	6/18/2013	6x4	AC	Replaced	Replaced 6x4 ductile iron reducer
3021 Locust blvd		6/19/2013	6"	Pvc		
1966 Hualapai Dr	7/1/1959	6/30/2013	3"	Abs		Clamp
2567 Via Arroya	7/1/1955	7/3/2013	6"	Abs	Replaced	Replaced 3' of main with clamps
1502 Arcadia Blvd	7/1/1967	7/8/2013	6"	Pvc		Cut out leaking tee to jones head replaced with section
Captains Cv & Surf s	7/1/1969	7/18/2013	2"	Abs		Clamp
1074 Mobile Ln	2/5/1973	7/20/2013	3"	AC		Clamp

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1781 Surf & Sand	7/1/1975	12/23/2005	3"	SWP		
Quartz & Palma	7/1/1975	12/21/2005	4"	C-900		9 Hours to replaced 120' Feet of pipe due to SID #2
Sweetwater Cv	7/1/1975	1/5/2004	3"	AC		Mark was off in middle of cove pipe did a Banana
2043 Sweetwater Dr	7/1/1975	1/7/2004	3"	AC		Mark was off. Just tapped main with Bucket
434 Moser Ave	6/4/2003	1/9/2004	4"	AC		
1368 Palma PLZ	7/1/1975	1/13/2004	3"	AC		Hit By contractor Jay Digs Mark was on
1635 Dean DR	7/1/1975	1/25/2004	6"	CL-160		
415 Church St	7/1/1975	1/29/2004	6"	AC		Hit by Contractor No B.S. Marks
Santa Maria& Sweetwater	7/1/1975	2/3/2004	3"	AC		Bad Backfill By Contractor
895 Baseline RD	7/1/1975	2/24/2004	6"	AC		Hit By Jaydigs,Broke Ac coupling
2088 Coronado Dr	7/1/1975	3/4/2004	3"	abs		hit by ADH plumbing Digging without Blue-stakes (will be charging)
1813 Cyprus Ln	7/1/1975	3/4/2004	3"	AC		Broke by Tree stump, Removed stump
Langford Between Citrus and Ramar	7/1/1975	3/6/2004	6"	CL-160		
Quartz Between Palma&Shamrock	7/1/1975	3/16/2004	4"	C-900		Mark was off,(Condie)
3049 Rosewood Ave	7/1/1975	3/22/2004	4"	Blue pvc		
1345 Sahuaro Dr	7/1/1975	3/31/2004	4"	AC		Mark was off, Jay digs
947 Riverfront DR	7/1/1975	4/13/2004	8"	CL-160		Split
1449 Paradise Ln	7/1/1975	4/14/2004	6"	AC-CL100		Jay digs tapped main made small leak
1420 Paradise Ln	7/1/1975	4/14/2004	6"	AC-CL100		Jay digs tapped main made small leak
1051 Paradise Ln	7/1/1975	4/15/2004	4"	AC-CL100		Jay digs tapped main made small leak
1026 Jocabima Dr	7/1/1975	4/20/2004	6"	AC-CL100		Jay digs tapped main made small leak
1110 Jocabima Dr	7/1/1975	4/21/2004	6"	AC-CL100		Jay digs tapped main made small leak .Cut AC Coupling off
1081 Mobile LN	7/1/1975	4/26/2004	6"	AC-CL100		Jay digs tapped main Made small leak
1017 Mobile LN	7/1/1975	4/27/2004	2"	AC		Jay Digs hit unmarked line
1017 Mobile LN	7/1/1975	4/27/2004	2"	AC		Bad Backfill By Contractor Jay Digs
1016 Mobile LN	7/1/1975	4/27/2004	2"	Ac Valve		Jay Digs broke our valve trying to turn off
1000 Mobile LN	7/1/1975	4/27/2004	2"	AC		Bad Backfill By Contractor Jay Digs
1340 Lakeside DR	7/1/1975	5/5/2004	4"	AC		Bad Backfill By Contractor Condie
3121 Mulberry Dr	7/1/1975	5/9/2004	4"	Blue pvc		
1364 Lakeside Dr	7/1/1975	5/19/2004	6"	CL-160		Condie was backfilling rock hit pipe
3031 Hickory St	7/1/1975	5/25/2004	4"	Blue pvc		
Stieger& Whitewater	7/1/1975	6/2/2004	4"	AC		Poor Backfill by condie laying sewer main
1854 Coronado Dr	7/1/1975	6/5/2004	4"	abs		
Arcadia & Arena DR	7/1/1975	6/5/2004	6"	CL160		

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
Corner oswood & Rio Grande	6/4/2003	6/8/2004	4"	AC		Poor Backfill by condie laying sewer main
1105 Mobile Ln	7/1/1975	6/7/2004	2"	AC		Poor Backfill by condie laying sewer main
1985 Talc RD	7/1/1975	6/10/2004	4"	PVC		
3155 Larkwood Ave	7/1/1975	7/6/2004	4"	PVC		
1072 Ramar Rd	7/1/1975	7/7/2004	6"	AC 150		Broke by Jay Digs Marks was good
1104 Ramar Rd	7/1/1975	7/8/2004	6"	AC 150		Broke by Jay Digs Marks was good
3085 Locust Blvd	7/1/1975	7/16/2004	4"	CL160		4" Jones head fire line off oak
4TH & Moser	7/1/1975	7/13/2004	6"	AC		Silver Butte hit our 6" ac line
1700 Lakeside Dr	7/1/1975	7/14/2004	6"	CL160		Jay Digs, Not at fault, In Driveway of lakeside plaza
2096 Hermosa Dr	7/1/1975	7/22/2004	3"	ABS		
221 Moser Ave	7/1/1975	7/29/2004	4"	AC		Scratch By silver butte installing 12" main
3067 Larkwood Ave	7/1/1975	7/30/2004	4"	blue pvc		Mismarked hit by Gulbranson
211 Moser Ave	7/1/1975	8/2/2004	4"	AC		contractor had 40 feet of AC exposed fell in ditch and broke
665 Oak Ave	7/1/1975	7/30/2004	6"	CL160		Hit By Gulbranson marks were good
1567 Lakeside Dr	7/1/1975	8/10/2004	6"	AC main		Poor Backfill by condie laying sewer main
1967 Surf & Sand Dr	7/1/1975	8/13/2004	3"	ABS		
1601 Camino Ct	7/1/1975	8/19/2004	4"	Pvc		
1567 Lakeside Dr	7/1/1975	8/20/2004	6"	AC		Poor Backfill by condie laying sewer main
1115 Zircon Ave	7/1/1975	8/24/2004	2"	ABS		Hit while digging no blue stake marks
1117 Zircon Ave	7/1/1975	8/24/2004	2"	Abs		Hit while digging no blue stake marks
Riviera Loop	7/1/1975	8/27/2004	3"	ABS		
Sycamore & Mulberry	7/1/1975	8/31/2004	4"	Blue pvc		
1090 Zircon Ct	7/1/1975	9/1/2004	3"	AC		Jay digs had main exposed
1090 Zircon Ct	7/1/1975	9/1/2004	3"	AC		Jay digs Poor backfill
1692 Shamrock Rd	7/1/1975	9/1/2004	2"	abs		Hit by Gulbranson 2" line not marked unknown
Ramar& Park Ln	7/1/1975	9/9/2004	4"	AC		Condie had 3 joints exposed in air pipe broke Condie at fault
Ramar& Tonto	7/1/1975	9/10/2004	4"	AC		Poor Backfill by condie laying sewer main
Ramar& Tonto	7/1/1975	9/13/2004	4"	AC		Bean break due to first break cause by condie
2140 Coronado Dr	7/1/1975	9/15/2004	3"	ABS		
2166 Coronado Dr	7/1/1975	9/16/2004	3"	Abs		
3013 Rosewood Ln	7/1/1975	9/20/2004	4"	Blue pvc		
905 Swan Dr	7/1/1975	9/29/2004	6"	abs		Had to retap svc, Split at glued saddle
762 Malibu dr	7/1/1975	10/1/2004	6"	abs		
1842 Coronado Dr	7/1/1975	10/7/2004	6"	abs		Mismark by Ray B
3085 Locust Blvd		11/15/2004	6"	pvc		Tighten clamp

MOHAVE DISTRICT, RIO VISTA WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

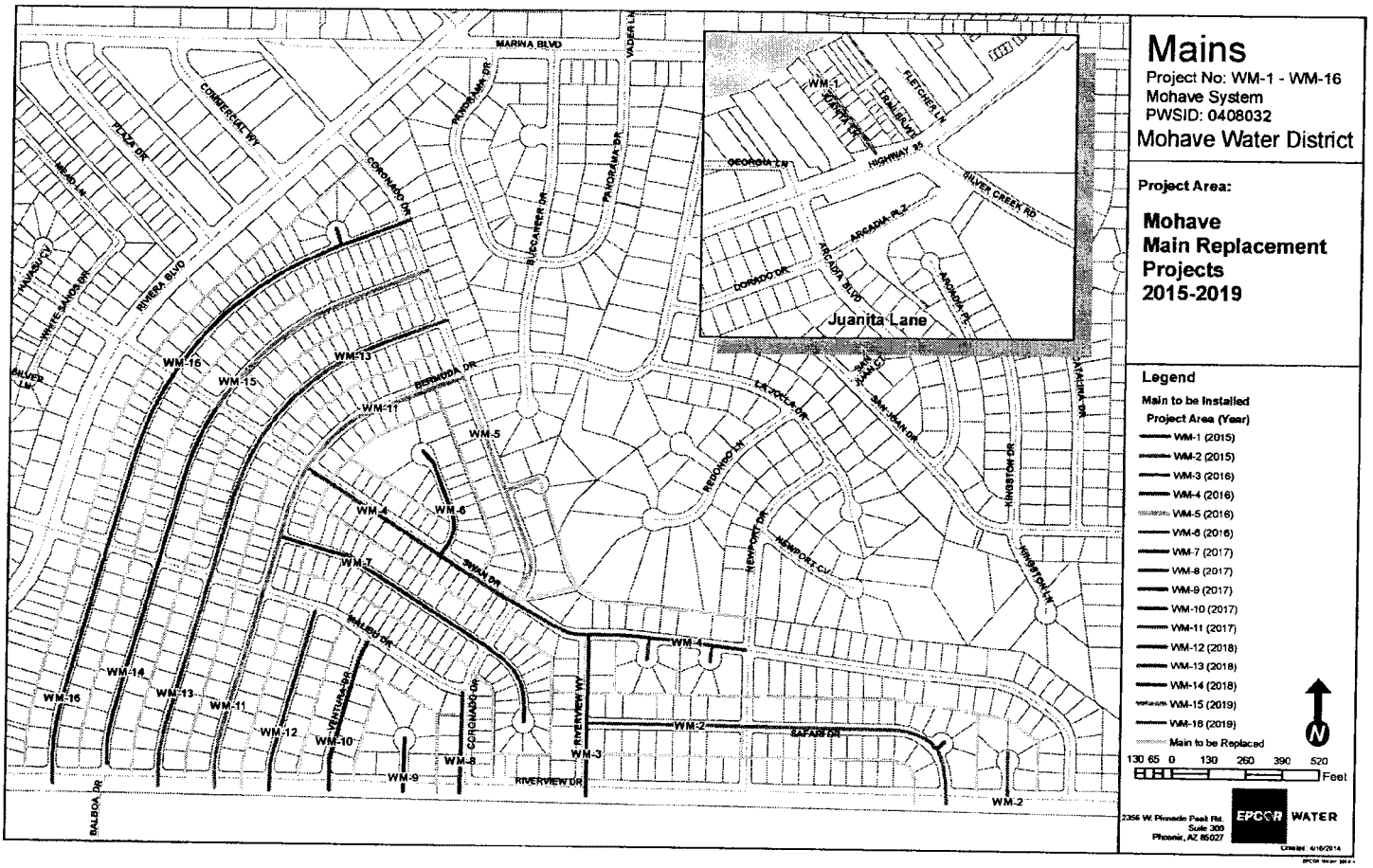
ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1551 Emerald Rd		10/25/2004	4"	ac		Bad Backfill by condie
1114 Zircon Ln	7/1/1979	11/2/2004	3"	ac		mark was off claw construction
1228 silica Ave	7/1/1979	11/2/2004	3"	ac		Condie bad backfill
1117 Zircon Ave	7/1/1979	11/9/2004	3"	ac		Claw bad backfill
4921 La Riquaza Rd		12/30/2004	6"	ac	Repaired	Prev Repair (romac broke)

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
2610 Via Arroyo	6/2/1996	10/7/2004	4"	abs		MJ tee 2-4" Quantum1-3" Quantum
Mad Dogs	5/27/1996	10/13/2004	6"	Ductile		
Intersection Zircon Ave& Zircon CT	6/2/1996	10/25/2004	4"	AC		Bad backfill
2893 Desert Vista	8/22/1967	8/16/2005	6"	C-900		
Desert foothills & Canyon	3/17/1975	9/6/2007	12"	C-900		Pipe on rock
2881 Desert Vista Dr	7/1/1967	8/20/2011	6"	C-900		Two Quantums

MOHAVE DISTRICT, CAMP MOHAVE WATER SYSTEM - MAIN REPAIRS & REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	STATUS	NOTES
1854 Coronado Dr	7/1/1958	12/18/2005	4"	SWP		
1860 Coronado Dr	5/1/1996	12/20/2005	4"	SWP		Tied one some into existing sch 40 Repair


Mains
Project No: WM-1 - WM-16
Mohave System
PWSID: 0408032
Mohave Water District
Project Area:
Mohave
Main Replacement
Projects
2015-2019
Legend
Main to be Installed
Project Area (Year)
WM-1 (2015)
WM-2 (2015)
WM-3 (2016)
WM-4 (2016)
WM-5 (2016)
WM-6 (2016)
WM-7 (2017)
WM-8 (2017)
WM-9 (2017)
WM-10 (2017)
WM-11 (2017)
WM-12 (2018)
WM-13 (2018)
WM-14 (2018)
WM-15 (2019)
WM-16 (2019)
Main to be Replaced
130 65 0 130 260 390 520
Feet
N
2356 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 4/16/2014
Juanita Lane
MARINA BLVD
VADER LN
PANORAMA DR
CORONADO DR
BUCCANEER DR
COMMERCIAL WY
PLAZA DR
RIVIERA BLVD
WHITE SANDS DR
SILVER LN
BERMUDA DR
SWAN DR
SAFARI DR
RIVERVIEW DR
RIVERVIEW WY
VENTURA DR
BALBOA DR
LA JOLLA DR
SAN JUAN DR
REDONDO LN
NEWPORT DR
NEWPORT CV
KINGSTON DR
KINGSTON LN
CATALINA DR
FLETCHER LN
TRAILER WY
HIGHWAY 95
GEORGIA LN
SILVER CREEK RD
ARCADIA PLZ
ARCADIA BLVD
DORADO DR
ARONDIA PL
WM-1
WM-2
WM-3
WM-4
WM-5
WM-6
WM-7
WM-8
WM-9
WM-10
WM-11
WM-12
WM-13
WM-14
WM-15
WM-16

Mohave Water District, Mohave System – PWS ID No. 08032

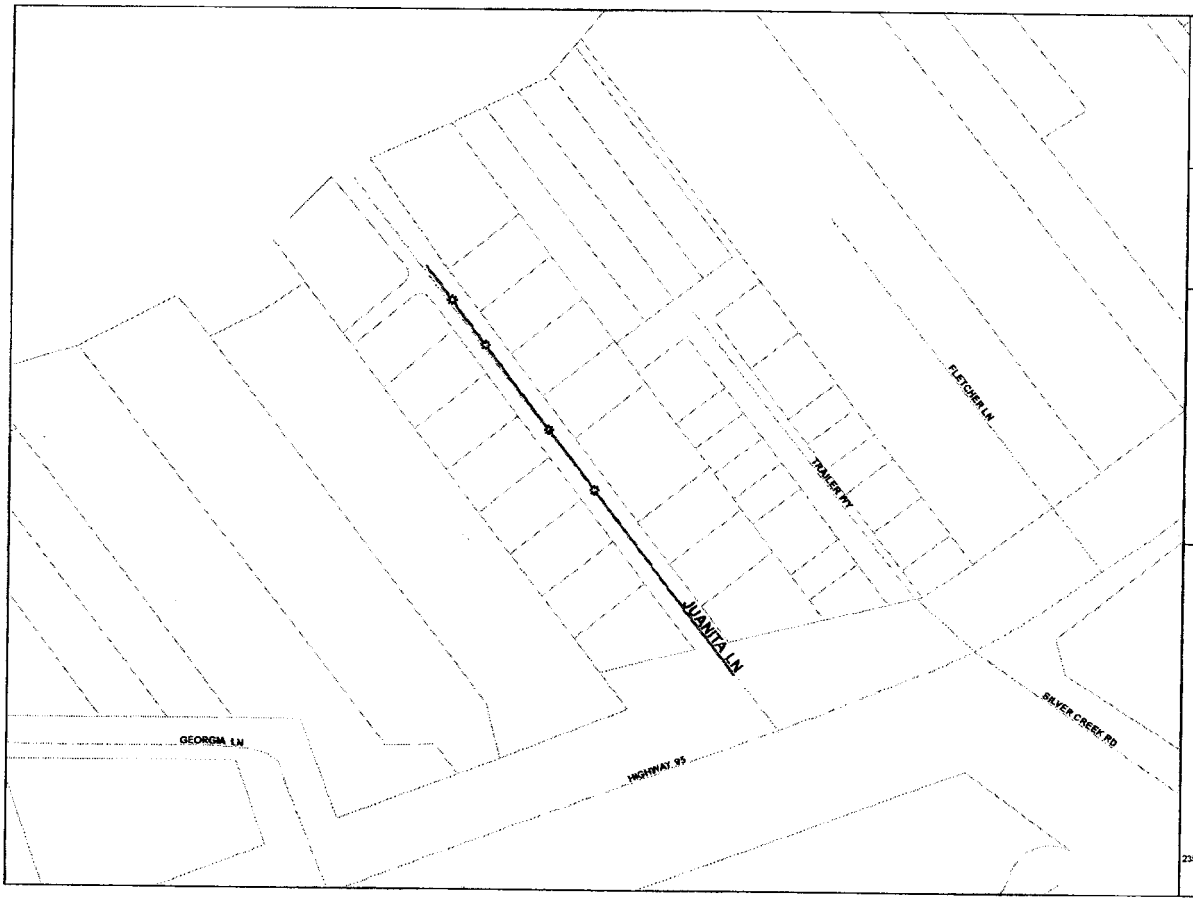
SIB PLANT TABLE I, 3-1

2015 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-1	331	Distribution Main	485 LF	6"	PVC	$235	Juanita Ln	12/2015	n/a	$113,878	Replace 485 LF of existing ABS thin-wall main with 6" PVC in Juanita Ln. The main was installed in 1982 and the existing material is not of sufficient strength for use in a public water system which has resulted in four breaks or leaks in the last ten years. Replacing the main will help reduce system water loss and improve customer pressure and flow. The existing main is 3" in diameter, which is not sufficient for installing hydrants or supporting fire flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-1 in Exhibit CC-1-A for more detail.

WM-2	331	Distribution Main	1,677 LF	8"	PVC	$270	Safari Dr	12/2015	n/a	$452,216	Replace existing mains in rear-lot easements along Safari Dr between Riverview Way and Riverview Dr and along Riverview Cv north of Riverview Dr with 1,677 LF of 8" main in Safari Dr between Riverview Way and Riverview Dr and Riverview Cv north of Riverview Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. One break has previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. One main in the street will replace the two existing mains on either side of the street in the rear easements. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-2 in Exhibit CC-1-A for more detail.
Total			**2,162 LF**							**$566,093**	



2015

Project No: WM-1 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Juanita Ln

Project Description:

Replace the existing main on Juanita Ln between Hwy 95 and the Colorado River with 485 LF of 6" main. The existing main was installed in 1982 using thin-wall ABS pipe, which has resulted in several leaks. Existing 3" main is also too small for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed

N

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

EPCOR WATER

Created: 3/12/2014

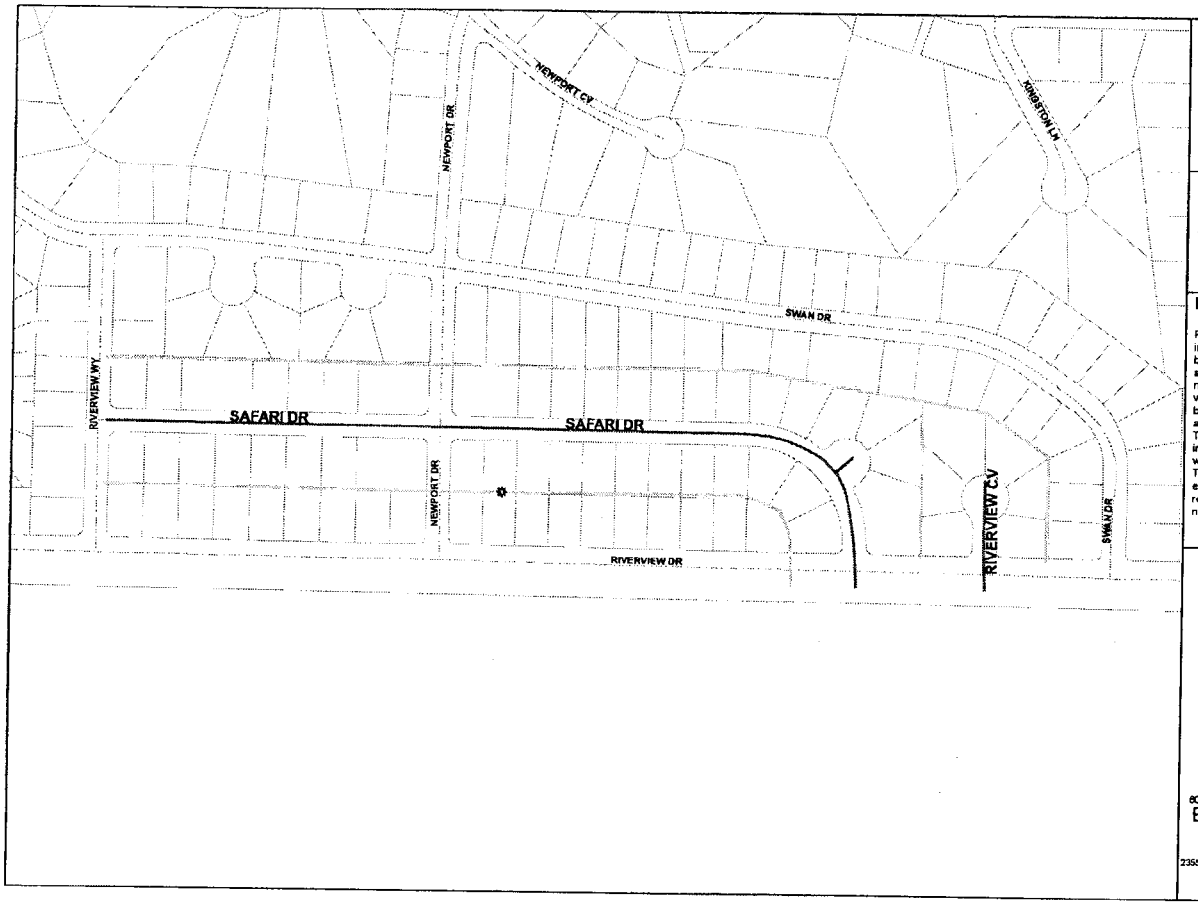
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 WM-1**	Project Location: Juanita Ln	

Project Description:

Replace the existing main on Juanita Ln between Hwy 95 and the Colorado River

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
485	linear feet	185	Contractor material and labor to install 6" main and service connections	$ 89,725
1	lump sum	7,000	Consultant engineering design	$ 7,000
130	hours	35	Company labor for field oversight and inspections	$ 4,550
50	hours	45	Company labor for project management	$ 2,250
Subtotal				$ 103,525
General Overhead Rate on Labor and Capital (10%)				$ 10,353
Total Estimated Cost				**$ 113,878**



2015

Project No: WM-2 •
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Safari Dr

Project Description:

Replace existing mains
in rear-lot easements along Safari Dr
between Riverview Way and Riverview Dr
and along Riverview Cv
north of Riverview Dr
with 1,677 LF of 8" main in Safari Dr
between Riverview Way and Riverview Dr
and Riverview Cv north of Riverview Dr.
The existing mains in this area were installed
in 1967 using materials of insufficient strength,
which has resulted in a high rate of failure.
The mains are also located in rear-lot
easements, which are difficult to access for
repairs. Additionally, the existing mains are
not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

60 30 0 60 120 180 240
Feet

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

EPCOR WATER

Created: 3/10/2014

EPCOR Water 2014 ©

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 WM-2**	Project Location: Safari Dr

Project Description:

Replace existing mains in rear-lot easements along Safari Dr. between Riverview Way and Riverview Dr. and along Riverview Cv. North of Riverview Dr. with 1,677 LF of 8" main in Safari Dr. between Riverview Way and Riverview Dr. and Riverview Cv. North of Riverview Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,677	linear feet	215	Contractor material and labor to install 8" main and service connections	$ 360,555
1	lump sum	25,000	Consultant engineering design	$ 25,000
460	hours	35	Company labor for field oversight and inspections	$ 16,100
210	hours	45	Company labor for project management	$ 9,450
Subtotal				$ 411,105
General Overhead Rate on Labor and Capital (10%)				$ 41,111
Total Estimated Cost				**$ 452,216**

Mohave Water District, Mohave System – PWS ID No. 08032

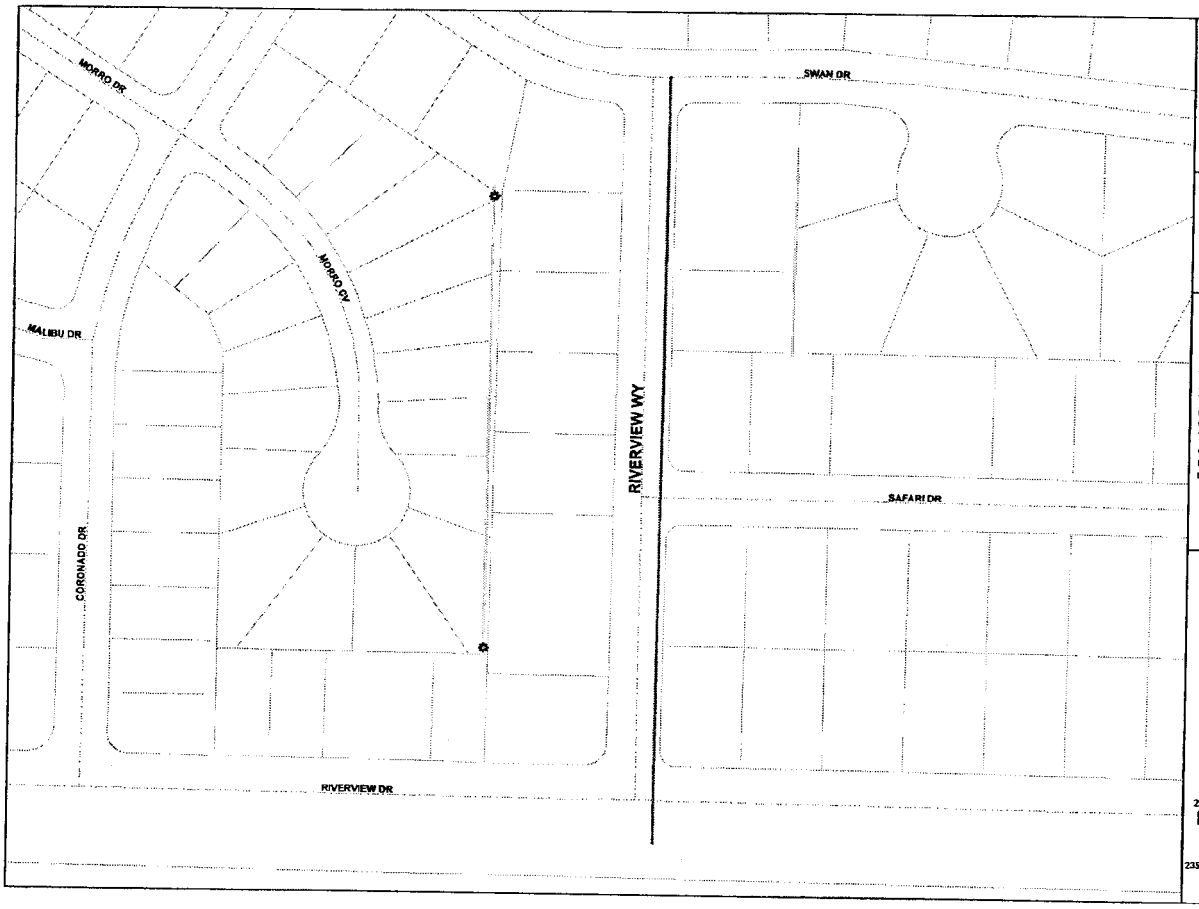
SIB PLANT TABLE I, 3-2

2016 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-3	331	Distribution Main	571 LF	8"	PVC	$207	Riverview Way	12/2016	n/a	$118,041	Replace existing mains in rear-lot easements along Riverview Way between Riverview Dr and Swan Dr with 571 LF of 8" main in Riverview Way between Riverview Dr and Swan Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Two breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-3 in Exhibit CC-1-A for more detail.

WM-4	331	Distribution Main	1,860 LF	8"	PVC	$231	Swan Dr	12/2016	n/a	$430,441	Replace existing mains in rear-lot easements along Swan Dr between Bermuda Dr and Newport Dr with 1,860 LF of 8" main in Swan Dr between Bermuda Dr and Newport Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Four breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-4 in Exhibit CC-1-A for more detail.
WM-5	331	Distribution Main	978 LF	8"	PVC	$216	Coronado Dr	12/2016	n/a	$211,229	Replace existing mains in rear-lot easements along Coronado Dr between Swan Dr and Bermuda Dr with 978 LF of 8" main in Coronado Dr between Swan Dr and Bermuda Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Two breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-5 in Exhibit CC-1-A for more detail.
WM-6	331	Distribution Main	411 LF	8"	PVC	$272	Swan Pl	12/2016	n/a	$111,612	Replace existing mains in rear-lot easements along Swan Pl between Bermuda Dr and Swan Dr with 411 LF of 8" main in Swan Pl between Bermuda Dr and Swan Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. One break has previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-6 in Exhibit CC-1-A for more detail.
Total			**3,820 LF**							**$872,322**	



2016

Project No: WM-3 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Riverview Way

Project Description:

Replace existing mains in rear-lot easements along Riverview Way between Riverview Dr and Swan Dr with 571 LF of 8" main in Riverview Way between Riverview Dr and Swan Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

25 12.5 0 25 50 75 100 Feet

2335 W. Pinnacle Peak Rd.
Suite 200
Phoenix, AZ 85027

EPCOR WATER

Created: 3/10/2014

EPCOR Water 2014 ©

EPCOR Water

Preliminary Cost Estimate

Date Prepared: 2/11/2014

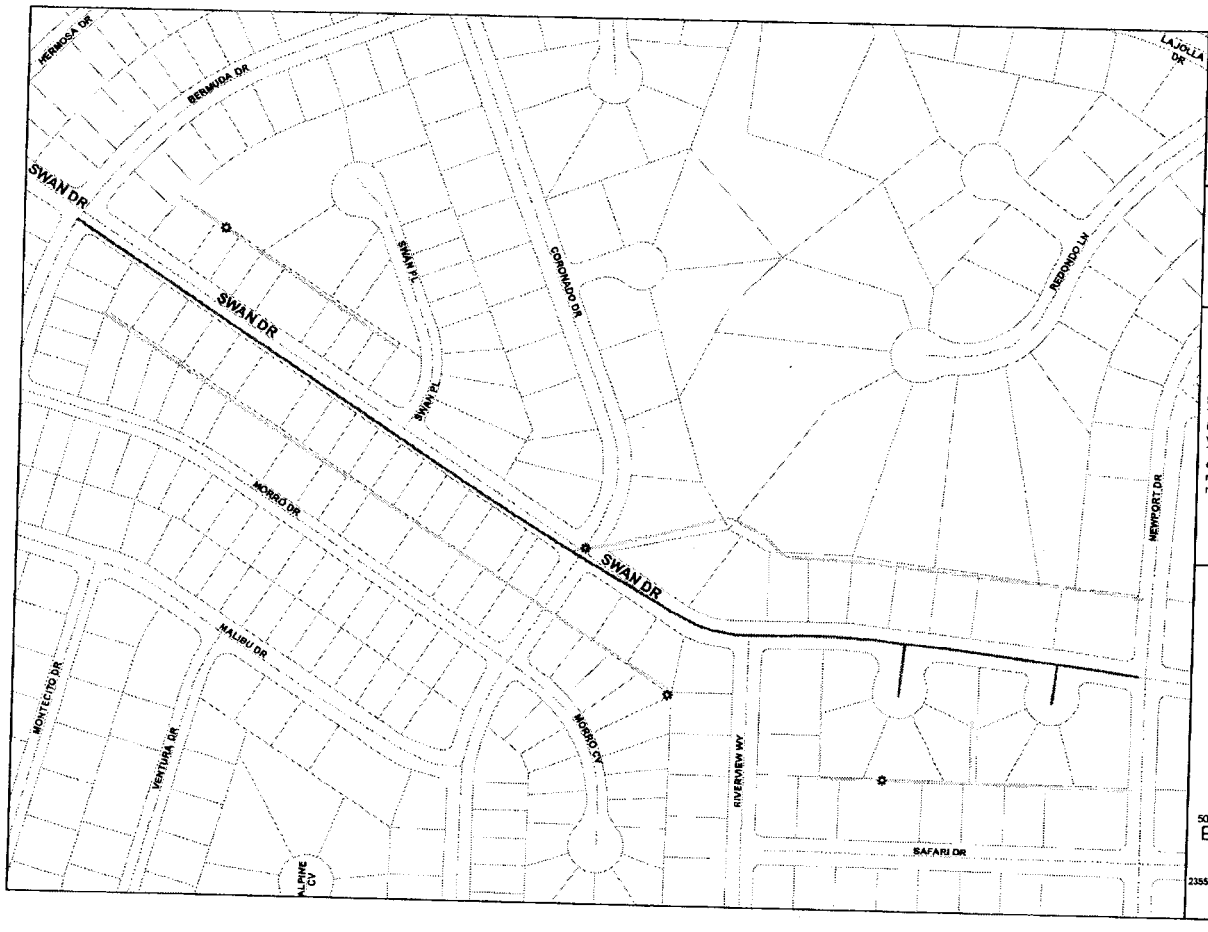
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, P.E.	Mohave Water District, Mohave System	**2016 WM-3**	Riverview Way

Project Description:

Replace existing mains in rear-lot easements along Riverview Way between Riverview Dr. and Swan Dr. with 571 LF of 8" main in Riverview Way between Riverview Dr. and Swan Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
571	linear feet	160	Contractor material and labor to install 8" main and service connections	$ 91,360
1	lump sum	8,000	Consultant engineering design	$ 8,000
150	hours	35	Company labor for field oversight and inspections	$ 5,250
60	hours	45	Company labor for project management	$ 2,700
Subtotal				$ 107,310
General Overhead Rate on Labor and Capital (10%)				$ 10,731
Total Estimated Cost				**$ 118,041**



2016

Project No: WM-4 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Swan Dr

Project Description:

Replace existing mains in rear-lot easements along Swan Dr between Bermuda Dr and Newport Dr with 1,860 LF of 6" main in Swan Dr between Bermuda Dr and Newport Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

50 25 0 50 100 150 200 Feet

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

EPCOR WATER

Created: 3/16/2014

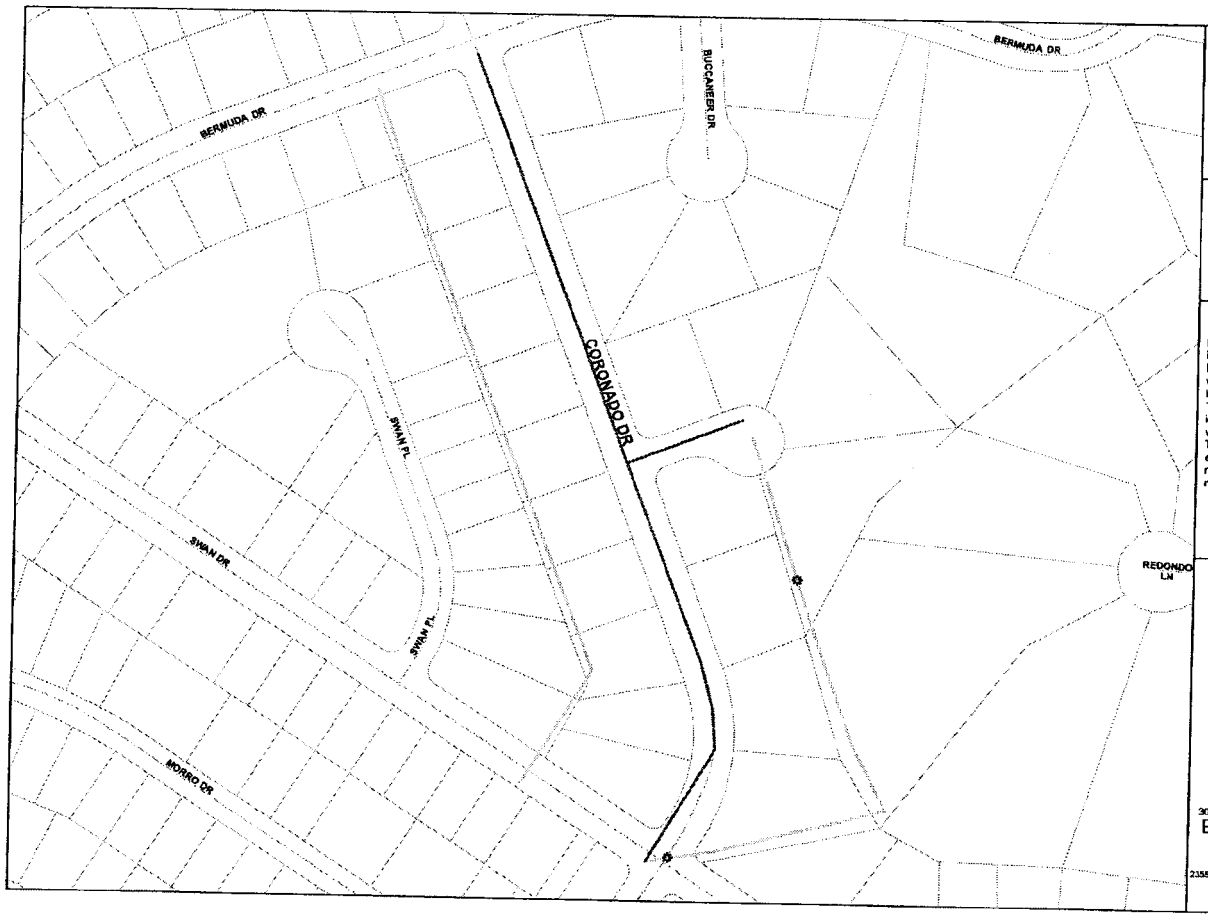
EPCOR Water 2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2016 WM-4**	Project Location: Swan Dr	

Project Description:
Replace existing mains in rear-lot easements along Swan Dr. between Bermuda Dr. and Newport Dr. with 1,860 LF of 8" main in Swan Dr. between Bermuda Dr. and Newport Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,860	linear feet	181	Contractor material and labor to install 8" main and service connections	$ 336,660
1	lump sum	26,000	Consultant engineering design	$ 26,000
510	hours	35	Company labor for field oversight and inspections	$ 17,850
240	hours	45	Company labor for project management	$ 10,800
Subtotal				$ 391,310
General Overhead Rate on Labor and Capital (10%)				$ 39,131
Total Estimated Cost				**$ 430,441**



2016

Project No: WM-5 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Coronado Dr

Project Description:

Replace existing mains in rear-lot easements along Coronado Dr between Swan Dr and Bermuda Dr with 978 LF of 8" main in Coronado Dr between Swan Dr and Bermuda Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

30 15 0 30 60 90 120 Feet

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

EPCOR WATER

Created: 3/10/2014

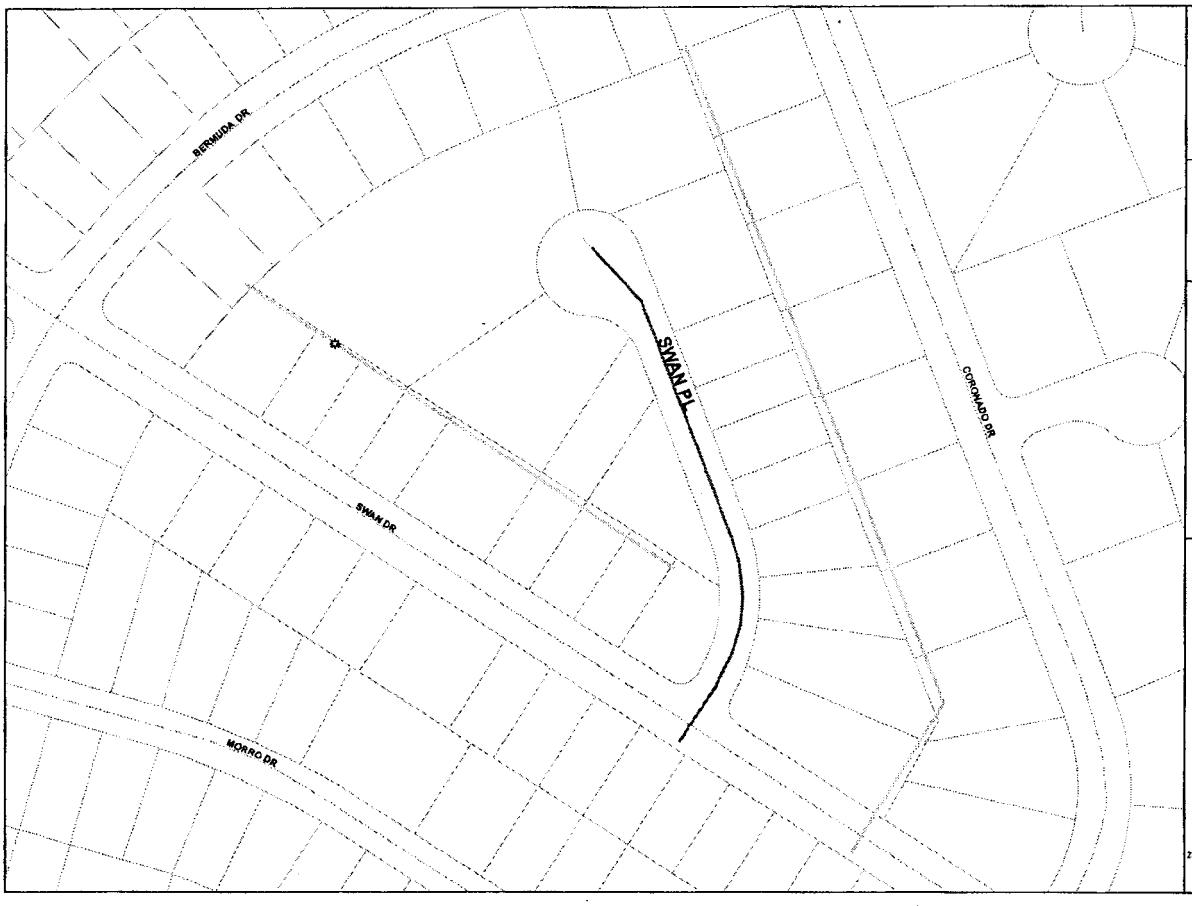
EPCOR Water 2011

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2016 WM-5**	Project Location: Coronado Dr	

Project Description:
Replace existing mains in rear-lot easements along Coronado Dr. between Swan Dr. and Bermuda Dr. with 978 LF of 8" main in Coronado Dr. between Swan Dr. and Bermuda Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
978	linear feet	167	Contractor material and labor to install 8" main and service connections	$ 163,326
1	lump sum	15,000	Consultant engineering design	$ 15,000
250	hours	35	Company labor for field oversight and inspections	$ 8,750
110	hours	45	Company labor for project management	$ 4,950
Subtotal				$ 192,026
General Overhead Rate on Labor and Capital (10%)				$ 19,203
Total Estimated Cost				**$ 211,229**



2016

Project No: WM-6 •
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Swan Pl

Project Description:

Replace existing mains
In rear-lot easements along Swan Pl
between Bermuda Dr and Swan Dr
with 411 LF of 8" main in Swan Pl
between Bermuda Dr and Swan Dr.
The existing mains in this area were installed
in 1967 using materials of insufficient strength,
which has resulted in a high rate of failure.
The mains are also located in rear-lot
easements, which are difficult to access for
repairs. Additionally, the existing mains are
not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

25 12.5 0 25 50 75 100
Feet

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

EPCOR WATER

Created: 3/10/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2016 WM-6**	Project Location: Swan Pl

Project Description:
Replace existing mains in rear-lot easements along Swan Pl. between Bermuda Dr. and Swan Dr. with 411 LF of 8" main in Swan Pl. between Bermuda Dr. and Swan Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
411	linear feet	215	Contractor material and labor to install 8" main and service connections	$ 88,365
1	lump sum	7000	Consultant engineering design	$ 7,000
110	hours	35	Company labor for field oversight and inspections	$ 3,850
50	hours	45	Company labor for project management	$ 2,250
Subtotal				$ 101,465
General Overhead Rate on Labor and Capital (10%)				$ 10,147
Total Estimated Cost				**$ 111,612**

Mohave Water District, Mohave System – PWS ID No. 08032

SIB PLANT TABLE I, 3-3

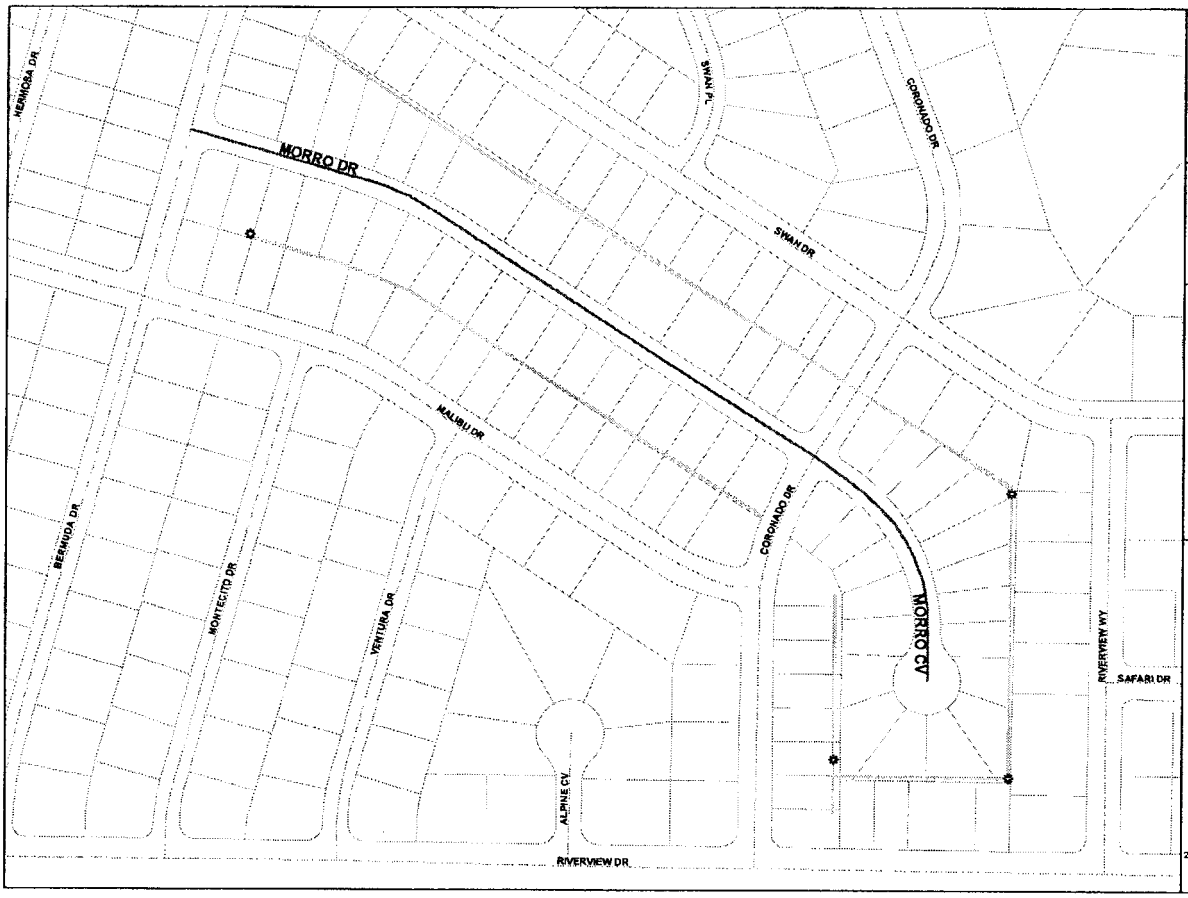
2017 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-7	331	Distribution Main	1,155 LF	8"	PVC	$354	Morro Dr	12/2017	n/a	$408,980	Replace existing mains in rear-lot easements along along Morro Dr and Morro Cv between Bermuda Dr and Riverview Dr with 1,155 LF of 8" main in Morro Dr and Morro Cv between Bermuda Dr and Riverview Dr The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Four breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-7 in Exhibit CC-1-A for more detail.

WM-8	331	Distribution Main	353 LF	8"	PVC	$263	Coronado Dr	12/2017	n/a	$92,667	Replace existing mains in rear-lot easements along Coronado Dr between Riverview Dr and Malibu Dr with 353 LF of 8" main in Coronado Dr between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Three breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-8 in Exhibit CC-1-A for more detail.
WM-9	331	Distribution Main	190 LF	8"	PVC	$356	Alpine Cv	12/2017	n/a	$67,733	Replace existing mains in rear-lot easements along Alpine Cv between Riverview Dr and Malibu Dr with 190 LF of 8" main in Alpine Cv between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Two breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-9 in Exhibit CC-1-A for more detail.
WM-10	331	Distribution Main	548 LF	8"	PVC	$230	Ventura Dr	12/2017	n/a	$126,049	Replace existing mains in rear-lot easements along Ventura Dr between Riverview Dr and Malibu Dr with 548 LF of 8" main in Ventura Dr between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-10 in Exhibit CC-1-A for more detail.

WM-11	331	Distribution Main	1,839 LF	8"	PVC	$235	Bermuda Dr	12/2017	n/a	$431,449	Replace existing mains in rear-lot easements along Bermuda Dr between Riverview Dr and Coronado Dr with 1,839 LF of 8" main in Bermuda Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Six breaks have previously been repaired on the specific main to be replaced, and there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-11 in Exhibit CC-1-A for more detail.
Total			4,085 LF							**$1,126,877**	



2017

Project No: WM-7 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Morro Dr

Project Description:

Replace existing mains
in rear-lot easements along
along Morro Dr and Morro Cv
between Bermuda Dr and Riverview Dr
with 1,155 LF of 8" main
in Morro Dr and Morro Cv
between Bermuda Dr and Riverview Dr.
The existing mains in this area were installed
in 1967 using materials of insufficient strength,
which has resulted in a high rate of failure.
The mains are also located in rear-lot
easements, which are difficult to access for
repairs. Additionally, the existing mains are
not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

40 20 0 40 80 120 160 Feet

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

EPCOR WATER

Created: 3/10/2014

EPCOR Water 2014

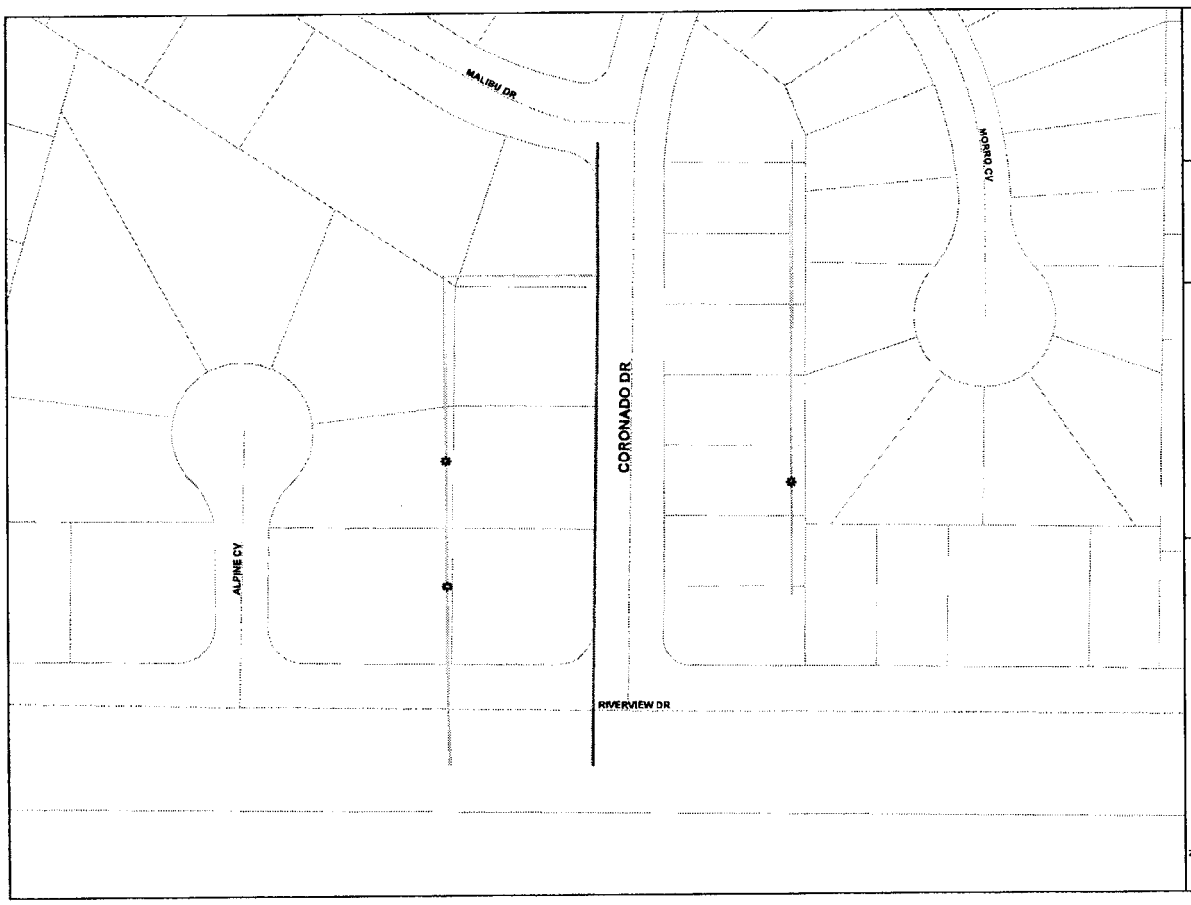
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 WM-7**	Project Location: Morro Dr

Project Description:

Replace existing mains in rear-lot easements along along Morro Dr. and Morro Cv. between Bermuda Dr. and Riverview Dr. with 1,155 LF of 8" main in Morro Dr. and Morro Cv. between Bermuda Dr. and Riverview Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,155	linear feet	290	Contractor material and labor to install 8" main and service connections	$ 334,950
1	lump sum	19,000	Consultant engineering design	$ 19,000
330	hours	35	Company labor for field oversight and inspections	$ 11,550
140	hours	45	Company labor for project management	$ 6,300
Subtotal				$ 371,800
General Overhead Rate on Labor and Capital (10%)				$ 37,180
Total Estimated Cost				**$ 408,980**



2017

Project No: WM-8 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Coronado Dr

Project Description:

Replace existing mains
in rear-lot easements along Coronado Dr
between Riverview Dr and Malibu Dr
with 353 LF of 8" main in Coronado Dr
between Riverview Dr and Malibu Dr.
The existing mains in this area were installed
in 1967 using materials of insufficient strength,
which has resulted in a high rate of failure.
The mains are also located in rear-lot
easements, which are difficult to access for
repairs. Additionally, the existing mains are
not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

20 10 0 20 40 60 80
Feet

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

EPCOR WATER

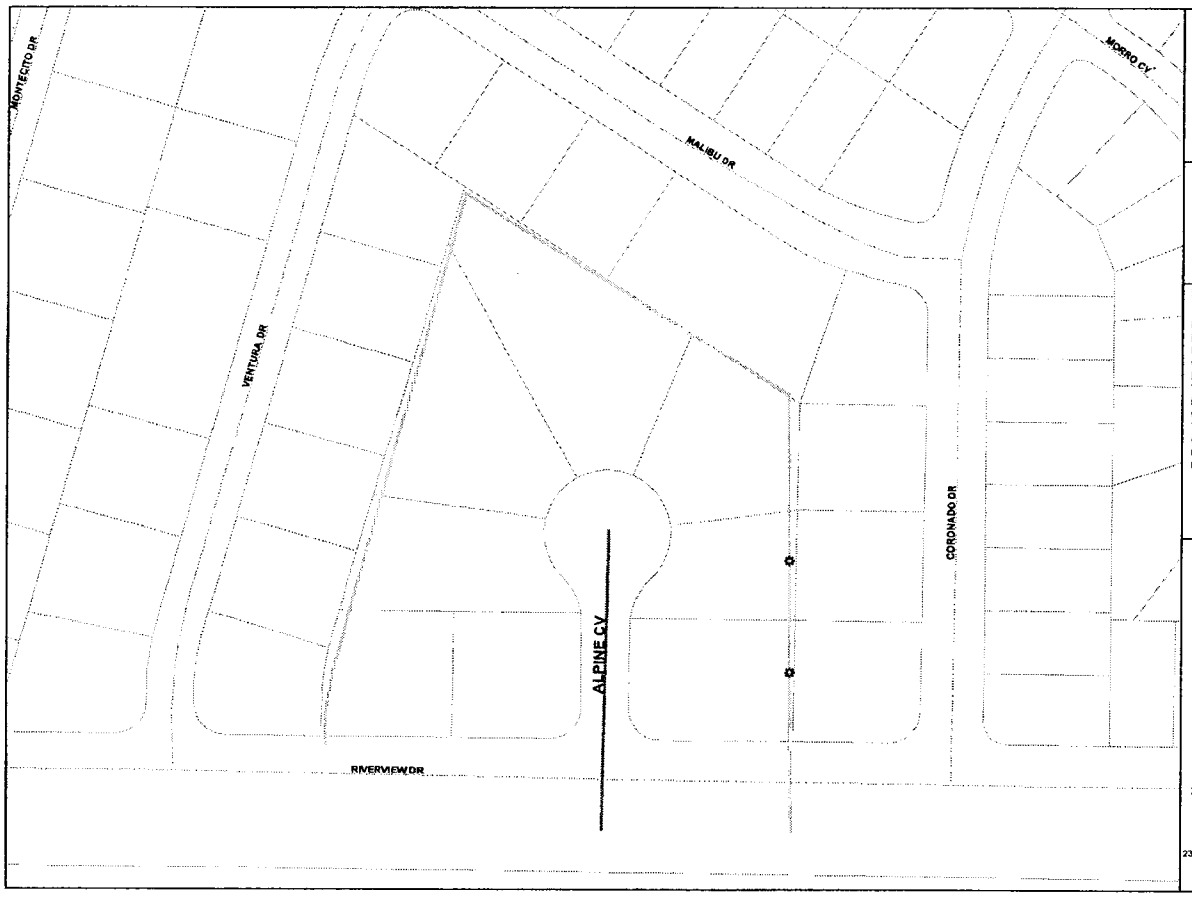
Created: 3/10/2014

EPCOR Water **Preliminary Cost Estimate**				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 WM-8**	Project Location: Coronado Dr	

Project Description:
Replace existing mains in rear-lot easements along Coronado Dr. between Riverview Dr. and Malibu Dr. with 353 LF of 8" main in Coronado Dr. between Riverview Dr. and Malibu Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
353	linear feet	206	Contractor material and labor to install 8" main and service connections	$ 72,718
1	lump sum	6,000	Consultant engineering design	$ 6,000
100	hours	35	Company labor for field oversight and inspections	$ 3,500
45	hours	45	Company labor for project management	$ 2,025
Subtotal				$ 84,243
General Overhead Rate on Labor and Capital (10%)				$ 8,424
Total Estimated Cost				**$ 92,667**



2017

Project No: WM-9 •
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Alpine Cv

Project Description:

Replace existing mains in rear-lot easements along Alpine Cv between Riverview Dr and Malibu Dr with 190 LF of 8" main in Alpine Cv between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

20 10 0 20 40 60 80
Feet

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

EPCOR WATER

Created: 3/10/2016

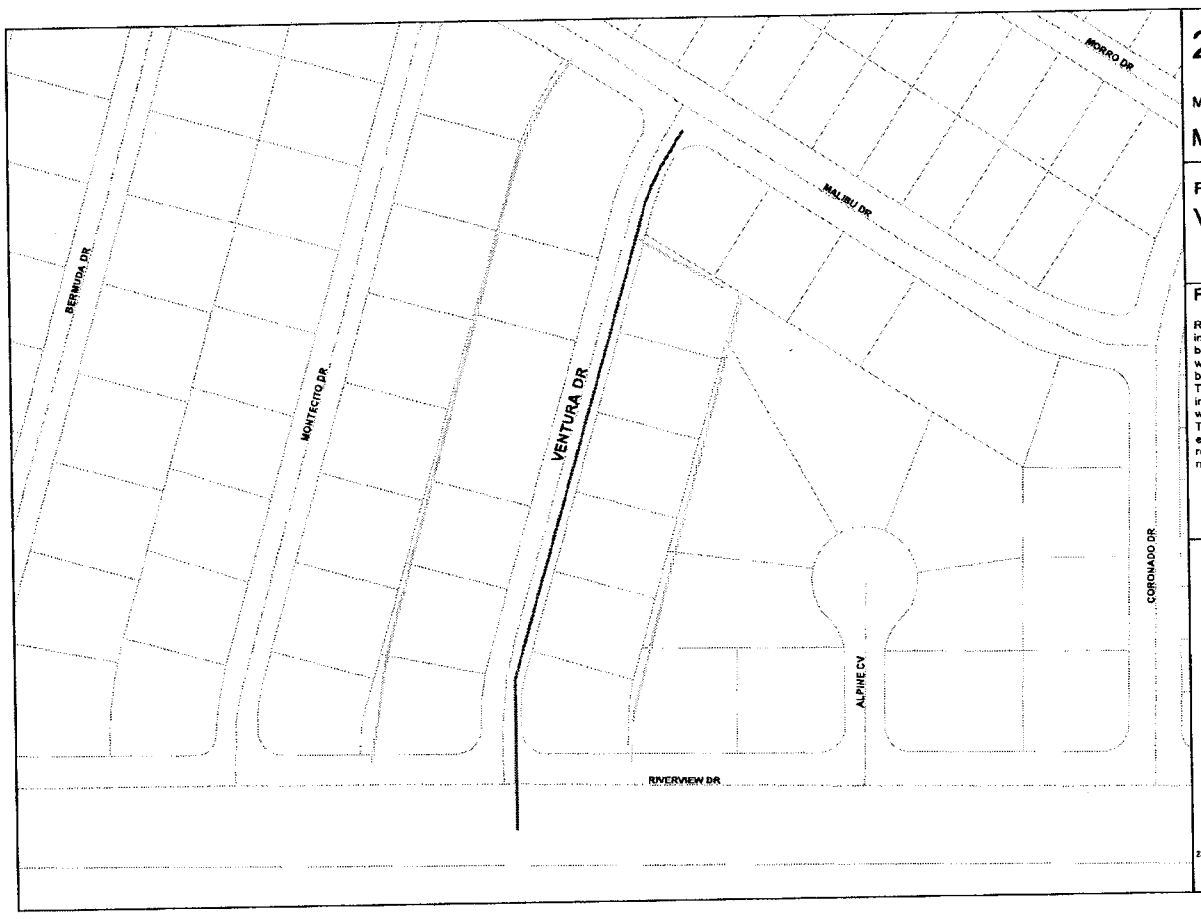
EPCOR Water 2011++

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 WM-9**	Project Location: Alpine Cv	

Project Description:
Replace existing mains in rear-lot easements along Alpine Cv. between Riverview Dr. and Malibu Dr. with 190 LF of 8" main in Alpine Cv. between Riverview Dr. and Malibu Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
190	linear feet	280	Contractor material and labor to install 8" main and service connections	$ 53,200
1	lump sum	4,000	Consultant engineering design	$ 4,000
80	hours	35	Company labor for field oversight and inspections	$ 2,800
35	hours	45	Company labor for project management	$ 1,575
Subtotal				$ 61,575
General Overhead Rate on Labor and Capital (10%)				$ 6,158
Total Estimated Cost				**$ 67,733**



2017

Project No: WM-10 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Ventura Dr

Project Description:

Replace existing mains in rear-lot easements along Ventura Dr between Riverview Dr and Malibu Dr with 548 LF of 8" main in Ventura Dr between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Main to be Installed
- Existing Main

N

25 12.5 0 25 50 75 100 Feet

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

EPCOR WATER

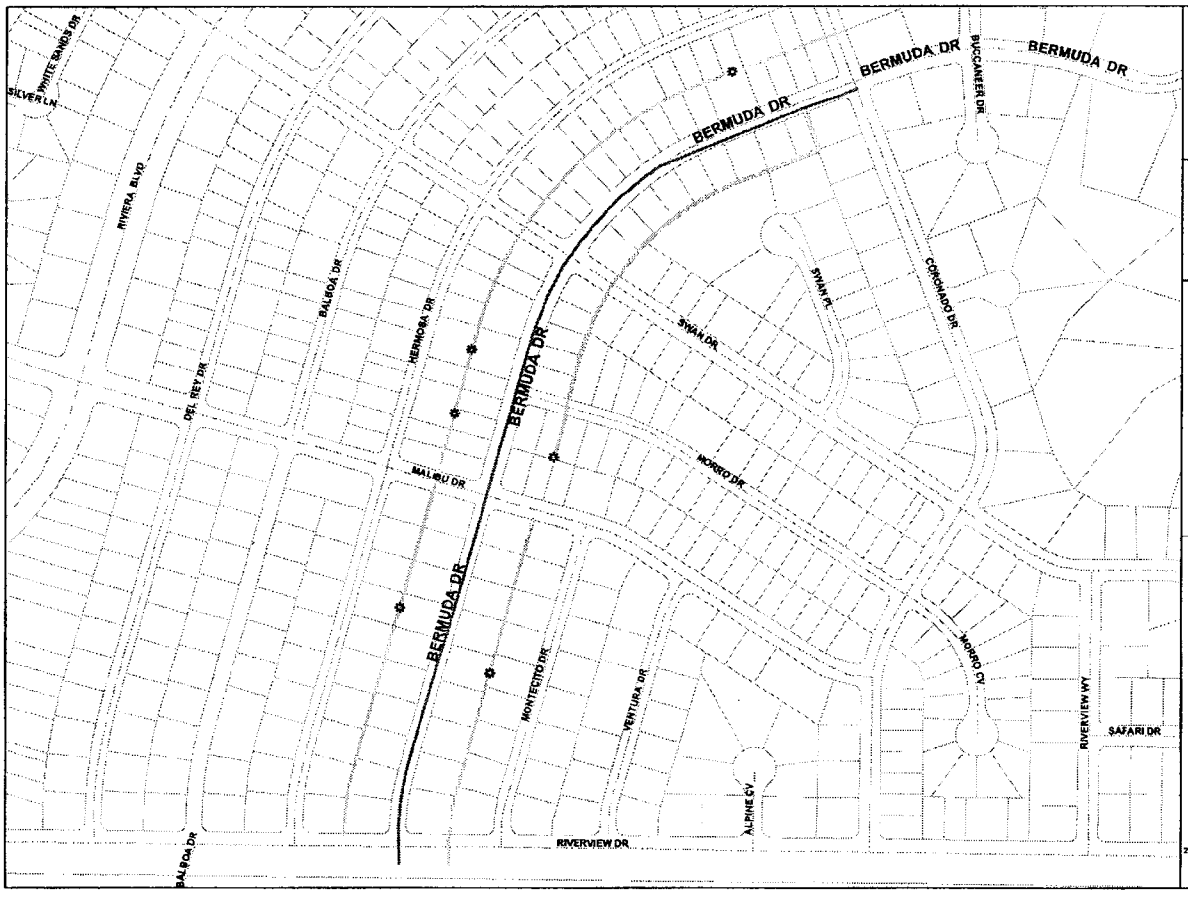
Created 3/10/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 WM-10**	Project Location: Ventura Dr

Project Description:
Replace existing mains in rear-lot easements along Ventura Dr. between Riverview Dr. and Malibu Dr. with 548 LF of 8" main in Ventura Dr. between Riverview Dr. and Malibu Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
548	linear feet	180	Contractor material and labor to install 8" main and service connections	$ 98,640
1	lump sum	8,000	Consultant engineering design	$ 8,000
150	hours	35	Company labor for field oversight and inspections	$ 5,250
60	hours	45	Company labor for project management	$ 2,700
Subtotal				$ 114,590
General Overhead Rate on Labor and Capital (10%)				$ 11,459
Total Estimated Cost				**$ 126,049**



2017

Project No: WM-11 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Bermuda Dr

Project Description:

Replace existing mains in rear-lot easements along Bermuda Dr between Riverview Dr and Coronado Dr with 1,839 LF of 8" main in Bermuda Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

60 30 0 60 120 180 240 Feet

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

EPCOR WATER

Created: 3/10/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 WM-11**	Project Location: Bermuda Dr	

Project Description:
Replace existing mains in rear-lot easements along Bermuda Dr. between Riverview Dr. and Coronado Dr. with 1,839 LF of 8" main in Bermuda Dr. between Riverview Dr. and Coronado Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,839	linear feet	184	Contractor material and labor to install 8" main and service connections	$ 338,376
1	lump sum	26,000	Consultant engineering design	$ 26,000
500	hours	35	Company labor for field oversight and inspections	$ 17,500
230	hours	45	Company labor for project management	$ 10,350
Subtotal				$ 392,226
General Overhead Rate on Labor and Capital (10%)				$ 39,223
Total Estimated Cost				**$ 431,449**

Mohave Water District, Mohave System – PWS ID No. 08032

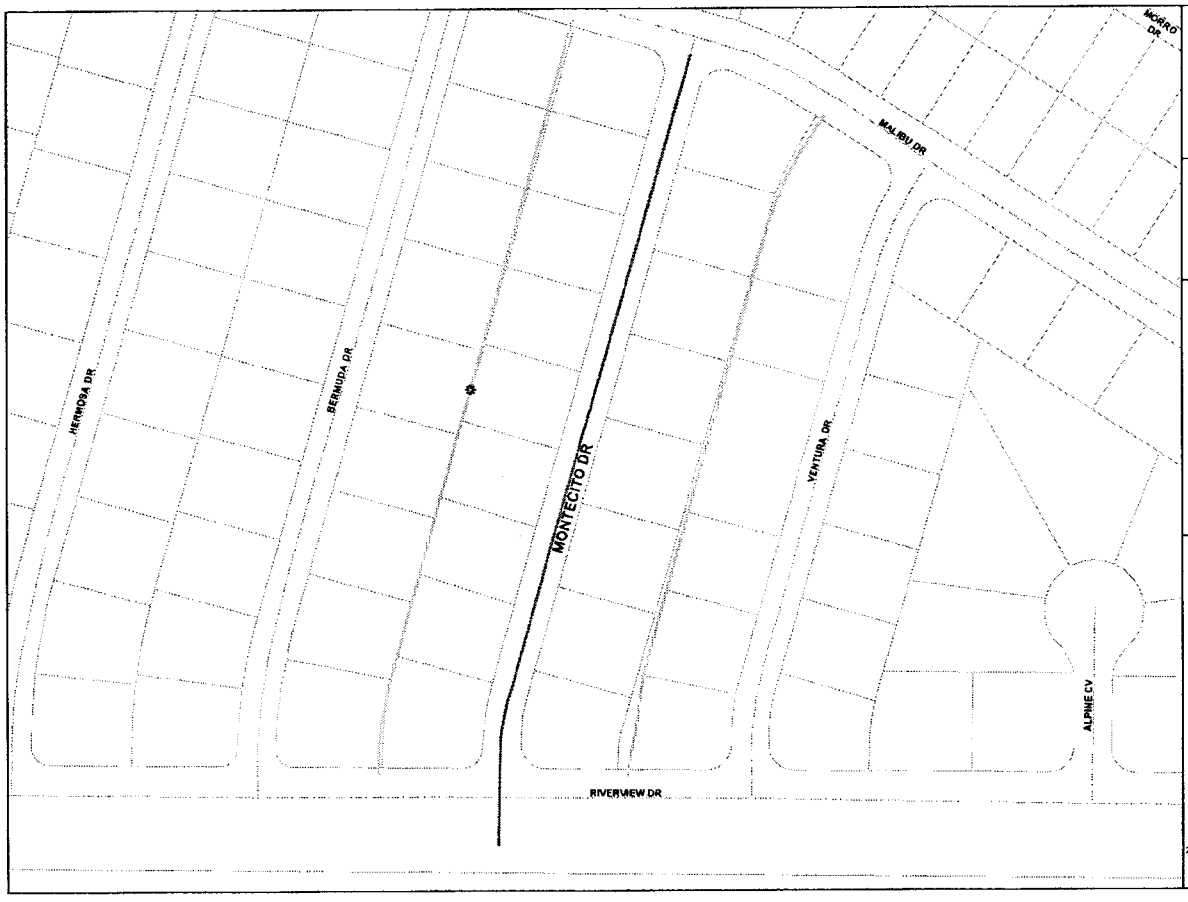
SIB PLANT TABLE I, 3-4

2018 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-12	331	Distribution Main	655 LF	8"	PVC	$232	Montecito Dr	12/2018	n/a	$151,762	Replace existing mains in rear-lot easements along Montecito Dr between Riverview Dr and Malibu Dr with 655 LF of 8" main in Montecito Dr between Riverview Dr and Malibu Dr The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. One break has previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-12 in Exhibit CC-1-A for more detail.

WM-13	331	Distribution Main	2,090 LF	8"	PVC	$258	Hermosa Dr	12/2018	n/a	$538,549	Replace existing mains in rear-lot easements along Hermosa Dr between Riverview Dr and Coronado Dr with 2,090 LF of 8" main in Hermosa Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Five breaks have previously been repaired on the specific main to be replaced, and there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-13 in Exhibit CC-1-A for more detail.
WM-14	331	Distribution Main	1,342 LF	8"	PVC	$254	Balboa Dr South	12/2018	n/a	$340,624	Replace existing mains in rear-lot easements along Balboa Dr between Riverview Dr and Swan Dr with 1,342 LF of 8" main in Balboa Dr between Riverview Dr and Swan Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. One break has previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-14 in Exhibit CC-1-A for more detail.
Total			**4,087 LF**							**$1,030,934**	



2018

Project No: WM-12 •
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Montecito Dr

Project Description:

Replace existing mains in rear-lot easements along Montecito Dr between Riverview Dr and Malibu Dr with 655 LF of 8" main in Montecito Dr between Riverview Dr and Malibu Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

2512.5 0 25 50 75 100 Feet

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

EPCOR WATER

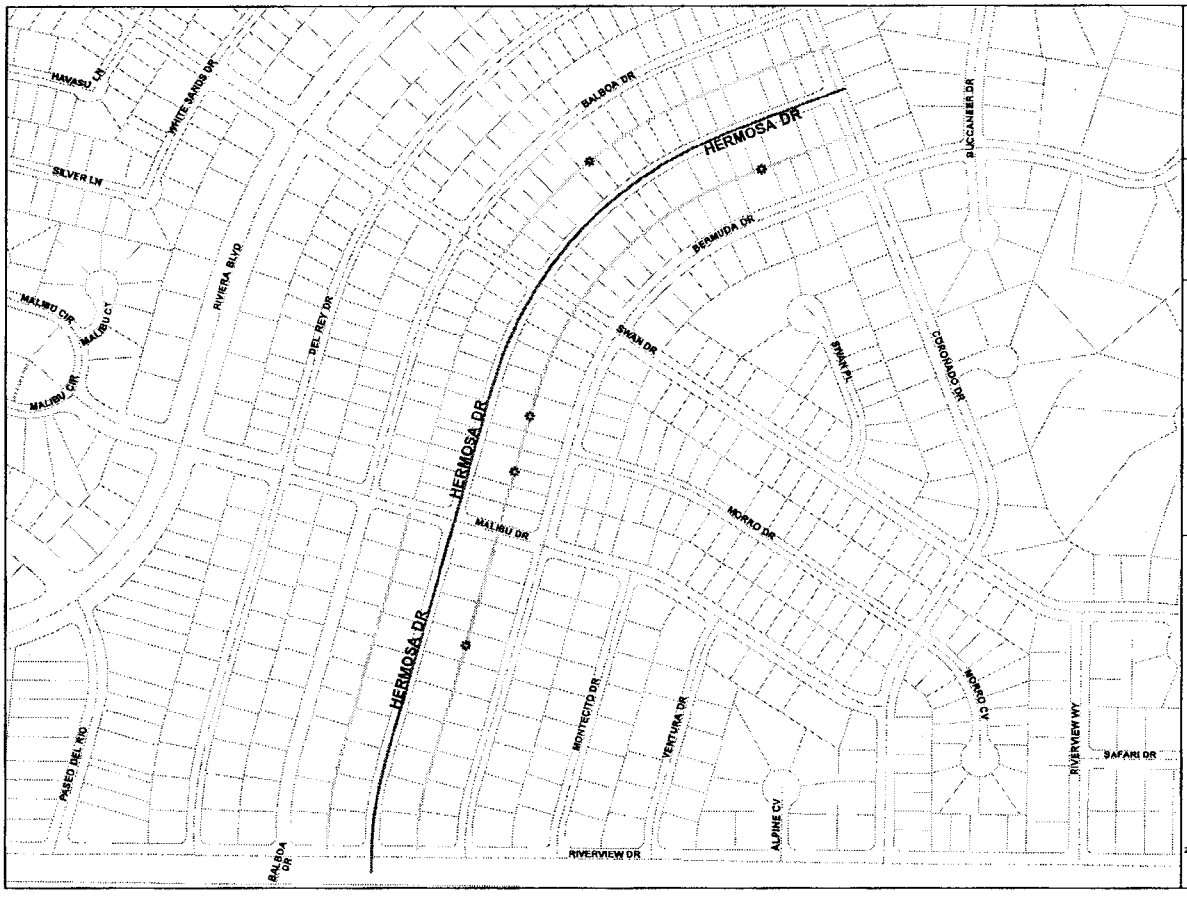
Created: 3/10/2014

EPCOR Water **Preliminary Cost Estimate**				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2018 WM-12**	Project Location: Montecito Dr	

Project Description:
Replace existing mains in rear-lot easements along Montecito Dr between Riverview Dr and Malibu Dr with 655 LF of 8" main in Montecito Dr between Riverview Dr and Malibu Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
655	linear feet	183	Contractor material and labor to install 8" main and service connections	$ 119,865
1	lump sum	9,000	Consultant engineering design	$ 9,000
170	hours	35	Company labor for field oversight and inspections	$ 5,950
70	hours	45	Company labor for project management	$ 3,150
Subtotal				$ 137,965
General Overhead Rate on Labor and Capital (10%)				$ 13,797
Total Estimated Cost				**$ 151,762**



2018

Project No: WM-13 •
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Hermosa Dr

Project Description:

Replace existing mains in rear-lot easements along Hermosa Dr between Riverview Dr and Coronado Dr with 2,090 L.F of 8" main in Hermosa Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

75 37.5 0 75 150 225 300
Feet

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

EPCOR WATER

Created: 3/10/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2018 WM-13**	Project Location: Hermosa Dr

Project Description:
Replace existing mains in rear-lot easements along Hermosa Dr. between Riverview Dr. and Coronado Dr. with 2,090 LF of 8" main in Hermosa Dr. between Riverview Dr. and Coronado Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2,090	linear feet	206	Contractor material and labor to install 8" main and service connections	$ 430,540
1	lump sum	28,000	Consultant engineering design	$ 28,000
540	hours	35	Company labor for field oversight and inspections	$ 18,900
270	hours	45	Company labor for project management	$ 12,150
Subtotal				$ 489,590
General Overhead Rate on Labor and Capital (10%)				$ 48,959
Total Estimated Cost				**$ 538,549**

2018

Project No: WM-14 -
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Balboa Dr South

Project Description:

Replace existing mains in rear-lot easements along Balboa Dr between Riverview Dr and Swan Dr with 1,342 LF of 8" main in Balboa Dr between Riverview Dr and Swan Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

50 25 0 50 100 150 200 Feet

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

EPCOR WATER

Created: 3/10/2014

EPCOR Water 2014 -

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: **2018 WM-14**	Project Location: Balboa Dr South	

Project Description:
Replace existing mains in rear-lot easements along Balboa Dr between Riverview Dr and Swan Dr with 1,342 LF of 8" main in Balboa Dr between Riverview Dr and Swan Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,342	linear feet	199	Contractor material and labor to install 8" main and service connections	$ 267,058
1	lump sum	22,000	Consultant engineering design	$ 22,000
370	hours	35	Company labor for field oversight and inspections	$ 12,950
170	hours	45	Company labor for project management	$ 7,650
Subtotal				$ 309,658
General Overhead Rate on Labor and Capital (10%)				$ 30,966
Total Estimated Cost				**$ 340,624**

Mohave Water District, Mohave System – PWS ID No. 08032

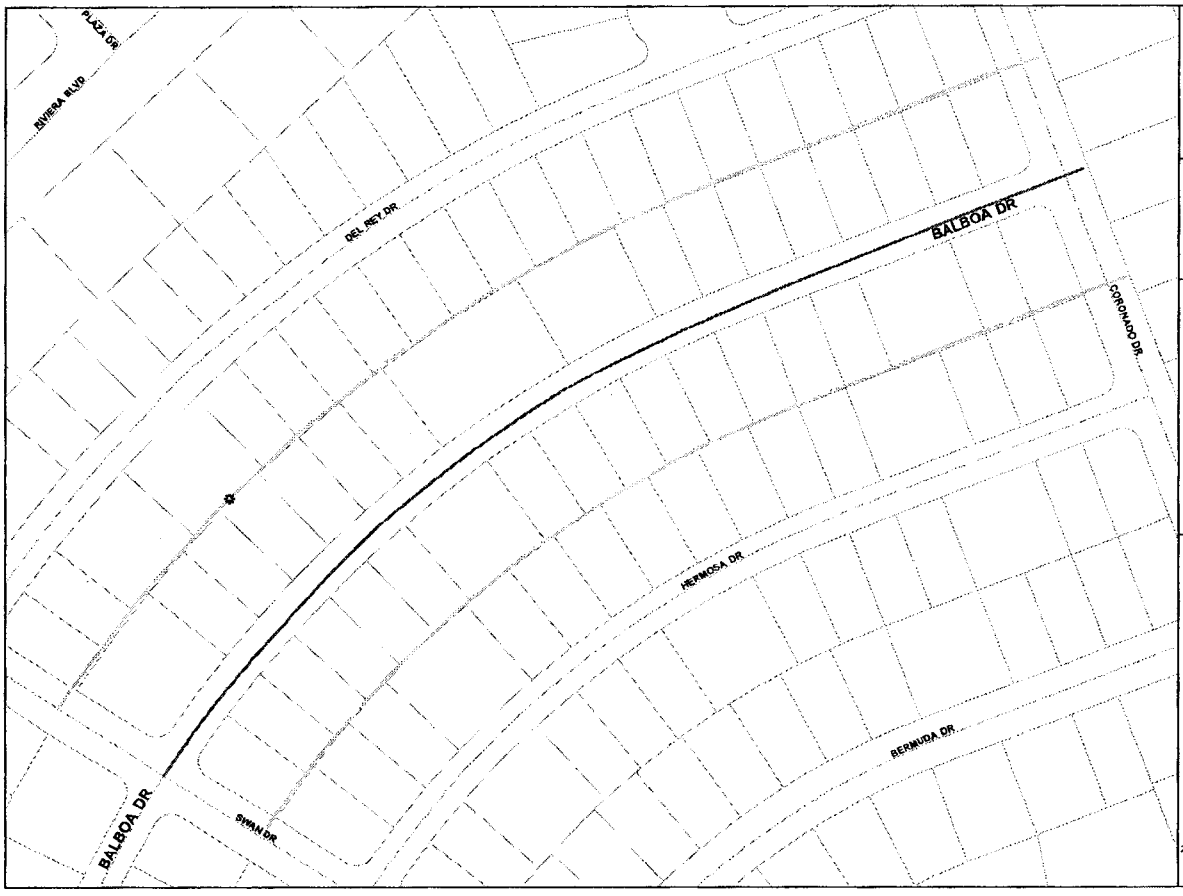
SIB PLANT TABLE I, 3-5

2019 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-15	331	Distribution Main	900 LF	8"	PVC	$281	Balboa Dr North	12/2019	n/a	$252,945	Replace existing mains in rear-lot easements along Del Rey Dr between Swan Dr and Coronado Dr with 900 LF of 8" main in Del Rey Dr between Swan Dr and Coronado Dr The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. One break has previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-15 in Exhibit CC-1-A for more detail.

WM-16	331	Distribution Main	2,603 LF	8"	PVC	$284	Del Rey Dr	12/2019	n/a	$739,306	Replace existing mains in rear-lot easements along Del Rey Dr between Riverview Dr and Coronado Dr with 2,603 LF of 8" main in Del Rey Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967. The existing pipe material does not meet current standards for use in public water systems and is not of sufficient strength, which has resulted in many leaks and/or breaks in the area. Two breaks have previously been repaired on the specific main to be replaced, although there have been many more leaks and breaks in the immediate vicinity on pipes with the same age and material. Replacing the main will help reduce system water loss and improve system reliability. The existing mains are located in rear-lot easements which are difficult to access for repairs. The mains are not sufficient to support fire flow nor are they accessible for emergency vehicles. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-16 in Exhibit CC-1-A for more detail.
Total			**3,503 LF**							**$992,251**	



2019

Project No: WM-15 •
Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Balboa Dr North

Project Description:

Replace existing mains in rear-lot easements along Balboa Dr between Swan Dr and Coronado Dr with 900 LF of 8" main in Balboa Dr between Swan Dr and Coronado Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

25 12.5 0 25 50 75 100 Feet

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

EPCOR WATER

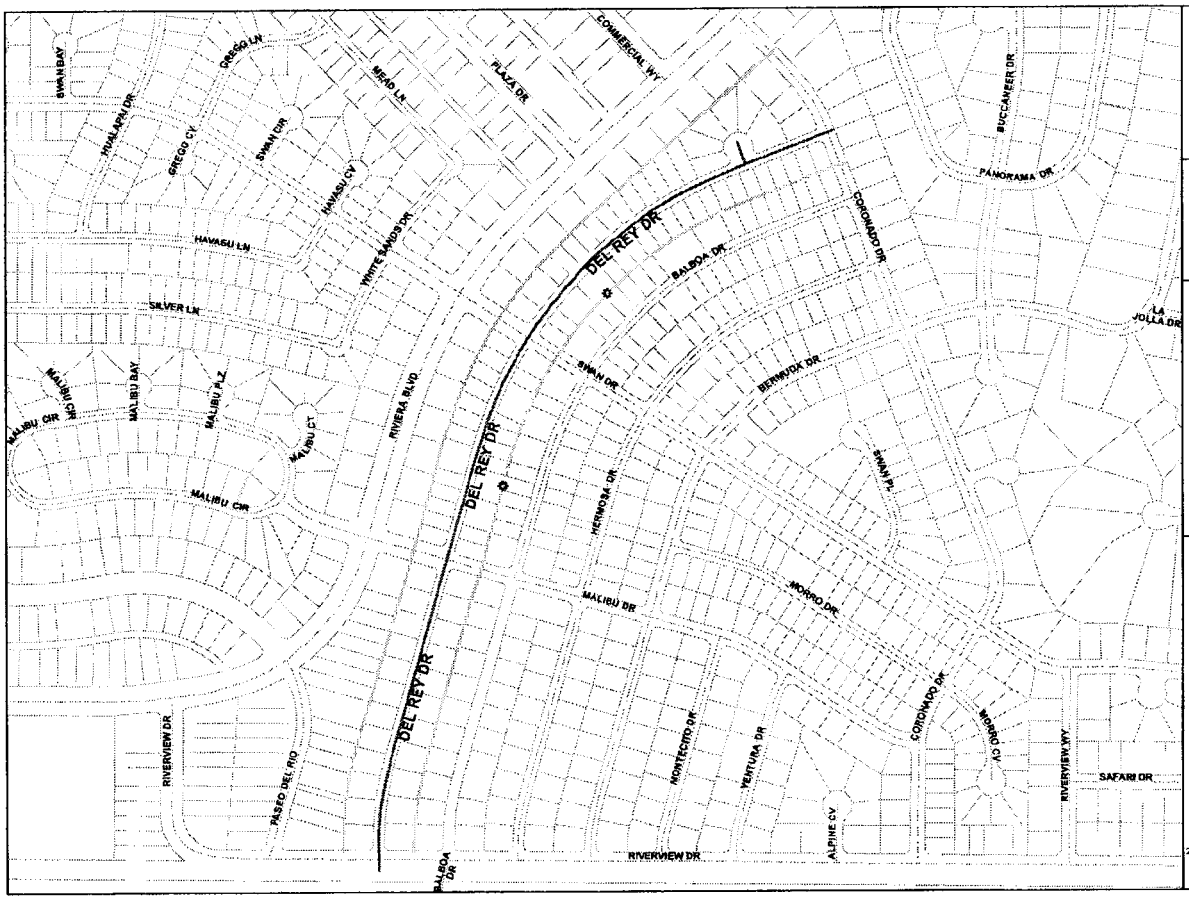
Created: 3/10/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Year and Number: 2019 WM-15	Project Location: Balboa Dr North	

Project Description:
Replace existing mains in rear-lot easements along Del Rey Dr between Swan Dr and Coronado Dr with 900 LF of 8" main in Del Rey Dr between Swan Dr and Coronado Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
900	linear feet	226	Contractor material and labor to install 8" main and service connections	$ 203,400
1	lump sum	14,000	Consultant engineering design	$ 14,000
230	hours	35	Company labor for field oversight and inspections	$ 8,050
100	hours	45	Company labor for project management	$ 4,500
Subtotal				$ 229,950
General Overhead Rate on Labor and Capital (10%)				$ 22,995
Total Estimated Cost				**$ 252,945**



2019

Project No: WM-16 -

Mohave System, PWSID: 0408032

Mohave Water District

Project Area:

Del Rey Dr

Project Description:

Replace existing mains in rear-lot easements along Del Rey Dr between Riverview Dr and Coronado Dr with 2,603 LF of 8" main in Del Rey Dr between Riverview Dr and Coronado Dr. The existing mains in this area were installed in 1967 using materials of insufficient strength, which has resulted in a high rate of failure. The mains are also located in rear-lot easements, which are difficult to access for repairs. Additionally, the existing mains are not large enough for fire flows.

Legend

- Recorded Main Break/Leak (2003-2013)
- Main to be Installed
- Existing Main

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/19/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, P.E.	Mohave Water District, Mohave System	**2019 WM-16**	Del Rey Dr

Project Description:
Replace existing mains in rear-lot easements along Del Rey Dr between Riverview Dr and Coronado Dr with 2,603 LF of 8" main in Del Rey Dr between Riverview Dr and Coronado Dr.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2,603	linear feet	232	Contractor material and labor to install 8" main and service connections	$ 603,896
1	lump sum	33,000	Consultant engineering design	$ 33,000
620	hours	35	Company labor for field oversight and inspections	$ 21,700
300	hours	45	Company labor for project management	$ 13,500
Subtotal				$ 672,096
General Overhead Rate on Labor and Capital (10%)				$ 67,210
Total Estimated Cost				**$ 739,306**

SECTION 4 - METERS

4.1 Overview

The Mohave Water district has approximately 17,000 residential and commercial customer accounts. The meters used to read customer use become inaccurate with age and generally should be replaced every 10 to 15 years. Over the last four years, about 1,650 meters per year have been replaced in the Mohave, Desert Foothills, and Lake Mohave systems. In order to ensure meter reading accuracy throughout the system, EPCOR plans to continue replacing inaccurate meters at a comparable pace.

4.2 Best Management Practices

The Arizona Department of Water Resources' (ADWR) Modified Non-Per Capita Conservation Program (MNPCCP) is one of the regulatory programs for large municipal water providers in Active Management Areas. It is a performance-based program (Best Management Practice or BMP) that participating water providers use to implement water conservation measures that result in water use efficiency in their service areas. ADWR's BMP for meter replacement and testing requires 1-inch and smaller meters be tested at a minimum of every 10 years. The following BMP is currently accepted by the Arizona Corporation Commission:

Meter Repair and/or Replacement Tariff – BMP 4.2

PURPOSE

A program for the Company to systematically assess all in-service water meters (including Company production meters) in its water service area to identify under-registering meters for repair or replacement (Modified Non-Per Capita Conservation Program Best Management Practice Category 4: Physical System Evaluation and Improvement 4.2 Meter Repair and/or Replacement Program).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education

Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. On a systematic basis, the Company will inspect 100 percent of its 1-inch and smaller in-service water meters at least once every ten years for one of the following reasons (whichever occurs first):
    a. A meter reading complaint is filed with the Company by a customer or Arizona Corporation Commission Staff,
    b. A meter has registered 1,000,000 gallons of usage,
    c. A meter has been in service for ten years.

2. Meters larger than 1-inch shall be inspected for one of the following reasons:
    a. A meter reading complaint is filed with the Company by a customer or Arizona Corporation Commission Staff,
    b. A meter has been in service for five years.

3. The inspection will be accomplished by having a Company Technician physically inspect each meter and its fittings for leaks, registers which may have become loose or are not properly attached to the meter and could be under-registering or other broken parts which need repair. In addition, meters shall be randomly selected for flow testing to identify potentially under-registering meters.

4. The Company shall also replace or reprogram any water meters that do not register in gallons. Upon the effective date of this tariff, the Company shall install all replacement meters with new:
    1. 1-inch and smaller meters that register in 1 gallon increments,
    2. 1-1/2-inch through 4-inch meters that register in 10 gallon increments, and
    3. 6-inch and larger meters that register in 100 gallon increments.

5. The Company shall keep records of all inspected and replacement meters and make this information available to the Commission upon request.

4.3 Industry Standards

EPCOR contacted other water utilities around the country to find out what their standard for meter replacement has been. Most of these utilities believe that replacing meters every 10 to 15 years is appropriate. Different studies around the country determined that a 10 to 20 year range is acceptable; however, there is no exact age that determines the time when a meter should be replaced. A meter's accuracy is dependent on many factors including water quality, water temperature, the flow rate passing through the meter, and the quantity of water that passes through the meter.

4.4 Meter Replacements

EPCOR's meter replacement program will target meter routes with the oldest meters first, as well as in critical areas where there have been instances of zero read meters. Prior to replacing the meters in a specific route, 10% of the meters will be tested for accuracy. If these meters do not meet the accuracy requirements described in our meter testing program, all of the meters in the route will be replaced; otherwise another meter route will be considered and tested for replacement need. A copy of the Company's meter testing and replacement guidelines is included in the following tab, **Meter Testing**.

Note that the timing of meter replacements will not necessarily coincide with the timing of service line replacements. Meters located in service line replacement areas may not be ready for replacement at the time of the service line replacements, and vice versa. Meters are being replaced according to meter route, and service lines are being replaced by street. However, when service lines are replaced, the meters on that street will be tested according to EPCOR's meter testing program, and if they are found to meet the requirements for replacement, they will be replaced at the time of the service line replacements; these meters will then *not* be replaced again under the meter replacement schedule.

EPCOR plans to replace an average of 1,590 meters per year over the next four years and continue at this pace until the all meters in the system are replaced. The average cost per year is estimated to be about $287,000 for 2015-2018 and $21,500 for 2019. (All of the meters in the District will have been replaced by 2019.) From 2015 and into 2018, the projects will be in the Mohave system and the meters in the targeted routes are generally 15 to 17 years old. Beginning in 2018, meters will be replaced in the Desert Foothills system, where meters are 13-

17 years old. In 2019, meter routes in the Mohave and Rio Vista systems are targeted. These meters are 13 to 19 years old.

Meter replacement projects for the next five years are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019**. SIB Plant Tables I, 4-1 through Table I, 4-5 provide a detailed description of each meter replacement project. The tables are broken down by year, so there is a separate table for each year from 2014 (Table I, 4-1) through 2018 (Table I, 4-5). Each project addresses a set of meter replacements that will occur within a defined meter route. Each project can also be tied to a map showing the proposed meter replacements. A cost estimate for each project is also provided.

EPCOR

FIELD OPERATIONS STANDARD OPERATING PRACTICES	Effective Date:	10-8-07
	Revised Date:	9-10-12

SOP NAME: SMALL METER TESTING	SOP #: CFO-312

TYPE: Preventative Maintenance	DIVISION: Field Operations	Activity Definitions:

OBJECTIVE

The objective of document is to provide consistent procedures for conducting preventative maintenance by testing water meters for accurate measurement of water consumption.

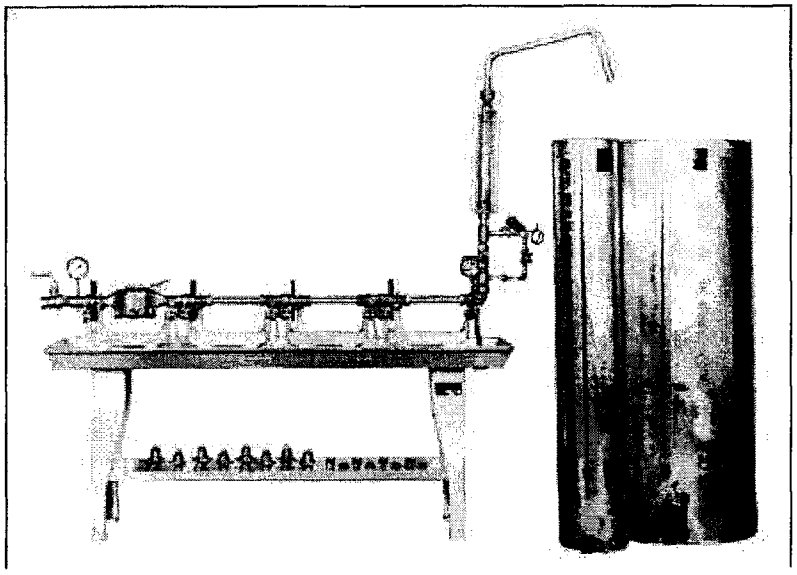
GOAL

The goal is for all personnel to consistently perform water meter testing using the same steps.

SCOPE

The practices and procedures in this program apply to all Field Operations employees, and contractors working on behalf of EPCOR Water, performing water meter testing.

ILLUSTRATION



PRECAUTIONS

1. Water lines are under constant pressure.
2. Pinch hazards.
3. Ford Meter Test Bench (pictured above)

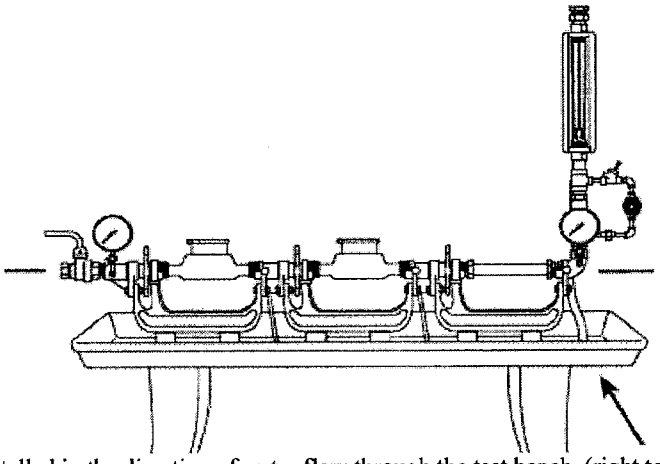
PROCEDURE

The Ford Indianapolis Test Bench will be used to test water meters in sizes 5/8" through 3/4" short; and the Ford Akron Test Bench will be used to test meters in sizes 3/4" long through 3". Always test meters of the same size at the same time. Both test benches have a water supply valve to supply water pressure to operate the hydraulic clamping cylinders. This valve should remain open at all times.

We will first go through the procedures for the Indianapolis Test Bench.

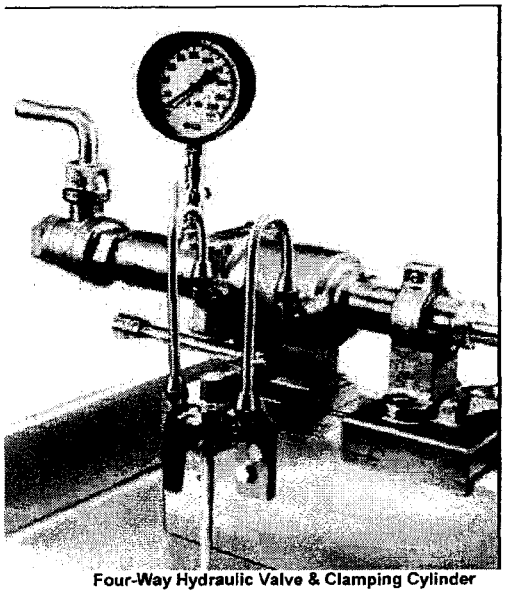
1. Check to see that all gaskets are in-place for each meter saddle.

2. If all meter saddles (9) will not be used, install a ⅝" or ¾" idler bar in each unused meter saddle. (See example below)



3. Make sure meters are installed in the direction of water flow through the test bench, (right to left).

4. Clamp the meters into position by turning the lever handle on the four hydraulic valve to the straight up position. Turning the valve ¼ turn counter-clockwise will release the meters from the clamped position. (See the picture below)



Four-Way Hydraulic Valve & Clamping Cylinder

5. Once all meters and/or idler bars are securely clamped in-place, open the blow-off valve and close the outlet valve going to the Testerate Indicator (rate of flow gauge). Slowly open the inlet valve to purge all the air from the meters. Once the air is purged, close the blow-off valve and slowly open the outlet valve to slowly purge all air from the entire test bench system. Once the purging is complete, close the outlet valve. Verify that there are no leaks from any gaskets, valves, or fittings before proceeding with the testing. Repair all leaks as needed.

6. With the outlet valve closed and the inlet valve open, adjust the meters to an easily recordable start point (dial hand on a whole number or zero) by using the bleeder valves. By opening the bleeder valve for each meter, this allows water to flow through the meter to position the dial hand to a start point. Adjust the outlet/last meter first (far left position), then move to the next (upstream) meter with each successive adjustment. You must use the blow-off valve to adjust the meter in the last position. Eventually all meters will be adjusted to a start point and ready for testing. Document the start point and the meter reading for each meter prior to testing.

7. Make sure the appropriate calibrated tank is empty and the tank drain valve is closed. The 10-gallon tank is used for low or intermediate flow tests and the 100 gallon tank is used for high flow tests. Rotate the calibration tank fill tube over the appropriate tank. Now you are ready to begin testing the meters.

8. The following chart indicates the American Water Works Association (AWWA) test requirements for new, rebuilt and repaired cold water meters:

Size In.	Maximum Rate (All Meters) Rate† of Flow gpm	Test Quantity†† Gal.	Test Quantity†† Cu. Ft.	Accuracy Limits Percent	Intermediate Rate (All Meters) Rate of Flow gpm	Test Quantity†† Gal.	Test Quantity†† Cu. Ft.	Accuracy Limits Percent	Minimum Rate (New and Rebuilt) Rate of Flow gpm	Test Quantity†† Gal.	Test Quantity†† Cu. Ft.	Accuracy Limits Percent New & Rebuilt Meters	Accuracy Limits Percent Repaired Meters
DISPLACEMENT METERS (AWWA C700 AND C710)													
5/8	15	100	10	98.5-101.5	2	10	1	98.5-101.5	1/4	10	1	95-101	90
5/8x3/4	15	100	10	98.5-101.5	2	10	1	98.5-101.5	1/4	10	1	95-101	90
3/4	25	100	10	98.5-101.5	3	10	1	98.5-101.5	1/2	10	1	95-101	90
1	40	100	10	98.5-101.5	4	10	1	98.5-101.5	3/4	10	1	95-101	90
1-1/2	50	100	10	98.5-101.5	8	100	10	98.5-101.5	1-1/2	100	10	95-101	90
2	100	100	10	98.5-101.5	15	100	10	98.5-101.5	2	100	10	95-101	90
3	150	500	50	98.5-101.5	20	100	10	98.5-101.5	4	100	10	95-101	90
4	200	500	50	98.5-101.5	40	100	10	98.5-101.5	7	100	10	95-101	90
6	500	1,000	100	98.5-101.5	60	100	10	98.5-101.5	12	100	10	95-101	90

We will start with the Low Flow Test. Switch the flow mode to Low on the electric flow control system panel. Turn the power switch to the on position. Quickly adjust the flow rate to ¼ gpm (5/8" meter) on the Testerate Indicator Gauge. The rate-of-flow is measured even with the flat top of the rotor body. Considering this is not a time measured test, it's not too critical for the flow rate to be precisely ¼ gpm throughout the length of the test. However, make every effort to keep the flow rate at ¼ gpm. The flow rate may fluctuate during the test, if the system pressure changes. *If the electric flow control system is not available or required, perform the test manually by slowly opening the outlet valve and quickly adjusting the flow rate to 1/4 gpm.*

9. Once the water level reaches the specified quantity level in the calibrated tank (see chart above), the flow valve should close automatically. If not, manually close the outlet valve. Record the meter reading and calculate the meter accuracy using the following equation:

   Final Meter Reading - Initial Meter Reading = Measured Flow Registered

   5/8" meter minimum flow rate 10 gallon test
   Example #1 0654090.9 - 0654082.8 = 8.1 = Meter running slow
   Example #2 1054230.5 - 1054220.4 = 10.1 = Meter running fast

   In Example #1, this meter test result is outside our tariff of >3% (9.7 gallons) and would need to be replaced.
   In Example #2, this meter test result is within our tariff of >3% (10.3 gallons) and would not require replacement. This meter should be reinstalled at its original service location. Repeat this calculation for each meter tested. A meter running slow, more than 3% accuracy, would require replacement. A meter running fast, more than 3% accuracy, would require replacement and a credit to the customer.

   All customer meters must meet the Arizona Corporation Commission (ACC) accuracy of 3%.

10. Repeat steps 6 – 9 to run the Intermediate and/or Maximum Rate Flow Test. Reference the appropriate column in the chart above for the test rate-of-flow gpm.

11. Once all tests are complete, remove all meters tested, and attach Meter Test Result Tag. Record all meter test results in the Meter Test Data Base.

We will now go through the procedures for the Akron Test Bench.

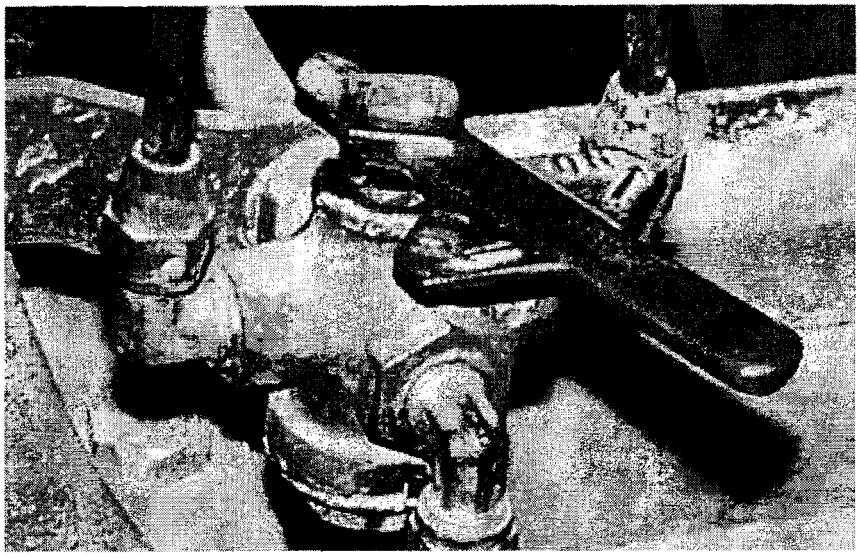
1. Check to see that all gaskets are in-place for each meter saddle.

2. If all meter saddles (3) will not be used, install the 2" idler bar in each unused meter saddle. Install the correct meter adapter (located on back row of test bench) for each size meter as follows:

¾" Long	HT-16&HT-12A
1"	HT-14
1½"	HT-15
2"	Not Required
3"	Not Required

3. Make sure meters are installed in the direction of water flow through the test bench, (left to right).

4. Clamp the meters into position by turning the lever handle on the four hydraulic valve to the right (On). Turning the valve to the left (Off) will release the meters from the clamped position. The center position is a neutral position. (See the picture below)



5. Once all meters and/or idler bars are securely clamped in-place, open the blow-off valve and close the outlet valve going to the Testerate Indicator (rate of flow gauge). Slowly open the inlet valve to purge all the air from the meters. Once the air is purged, close the blow-off valve and slowly open the outlet valve to slowly purge all air from the entire test bench system. Once the purging is complete, close the outlet valve. At this point, determine the maximum rate of flow expected for your meter test. All rate of flows less than 36 gpm should be performed with the Testerate By-pass Valve in the close position. All rates of flows over 36 gpm up to 170 gpm should be performed with the Testerate By-pass Valve in the close position and are read from the auxiliary scale mounted along side the tube. The rate of flow is measured even with the flat top of the rotor body. Verify that there are no leaks from any gaskets, valves, or fittings before proceeding with the testing. Repair all leaks as needed.

6. With the outlet valve closed and the inlet valve open, adjust the meters to an easily recordable start point (dial hand on a whole number or zero) by using the bleeder valves. By opening the bleeder valve for each meter, this allows water to flow through the meter to position the dial hand to a start point. Adjust the outlet/last meter first (far left position), then move to the next (upstream) meter with each successive adjustment. You must use the blow-off valve to adjust the meter in the last position. Eventually all meters will be adjusted to a start point and ready for testing. Document the start point and the meter reading for each meter prior to testing.

7. Make sure the appropriate calibrated tank is empty and the tank drain valve is closed. The 10-gallon tank is used for low or intermediate flow tests and the 100 gallon tank is used for high flow tests. Rotate the calibration tank fill tube over the appropriate tank. Now you are ready to begin testing the meters.

8. We will start with the Low Flow Test. Slowly open the outlet valve and quickly adjust the flow rate to ¾ gpm on the Testerate Indicator Gauge. The rate-of-flow is measured even with the flat top of the rotor body. Considering this is not a time measured test, it's not too critical for the flow rate to be precisely ¾ gpm throughout the length of the test. However, make every effort to keep the flow rate at ¾ gpm. The flow rate may fluctuate during the test, if the system pressure changes.

All 3" hydrant meters will be tested at the following flow rates and quantities:

Intermediate	20 gpm	100 gallons
Minimum	8 gpm	100 gallons

9. Once the water level reaches the specified quantity level in the calibrated tank (see chart above), the flow valve should close automatically. If not, manually close the outlet valve. Record the meter reading and calculate the meter accuracy using the following equation:

Final Meter Reading - Initial Meter Reading = Measured Flow Registered

3" meter maximum flow rate, 100 gallon test
Example #1 01654178 - 01654082 = 96 = Meter running slow
Example #2 01054322 – 01054220 = 102 = Meter running fast

In Example #1, this meter test result is outside our tariff of >3% (96 gallons) and would need to be replaced.
In Example #2, this meter test result is within our tariff of >3% (102 gallons) and would not require replacement. This meter should be reinstalled at its original service location. Repeat this calculation for each meter tested. A meter running slow, more than 3% accuracy, would require replacement. A meter running fast, more than 3% accuracy, would require replacement and a credit to the customer.

All customer meters must meet the Arizona Corporation Commission (ACC) accuracy of 3%.

10. Repeat steps 6 – 9 to run the Intermediate and/or Maximum Rate Flow Test. Reference the appropriate column in the chart above for the test rate-of-flow gpm.

11. Once all tests are complete, remove all meters tested, and attach Meter Test Result Tag. Record all meter test results in the Meter Test Data Base.

MEL HUNTSPON **September 10, 2012**
Manager, Field Operations

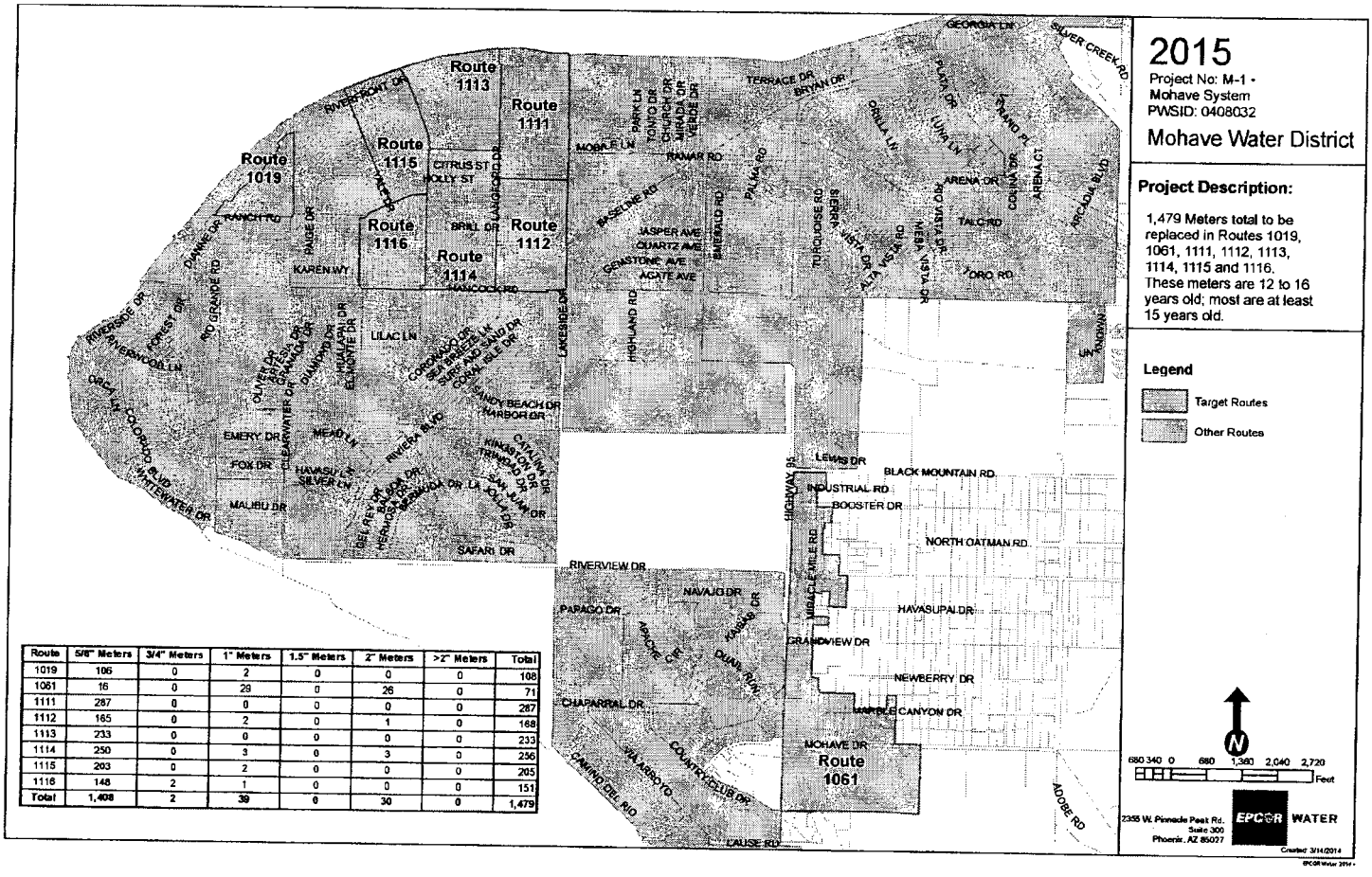
Mohave Water District, Mohave System – PWS ID No. 08-032

SIB PLANT TABLE I, 4-1

2015 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-1	334	meters	1,479	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1019, 1061, and 1111-1116 (see map M-1 in Exhibit CC-1)	12/2015	n/a	$266,908	Replace 1,408 - 5/8", 2 - 3/4", 39 – 1", and 30 – 2" (1,479 total) meters in Mohave district meter routes 1019, 1061, and 1111-1116. The existing meters in these routes will be between 12 and 16 years old at the time of replacement; most will be at least 15 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-1 in Exhibit CC-1-A for more detail.
Total			**1,479**							**$266,908**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	>2" Meters	Total
1019	106	0	2	0	0	0	108
1061	16	0	29	0	26	0	71
1111	287	0	0	0	0	0	287
1112	165	0	2	0	1	0	168
1113	233	0	0	0	0	0	233
1114	250	0	3	0	3	0	256
1115	203	0	2	0	0	0	205
1116	148	2	1	0	0	0	151
Total	1,408	2	39	0	30	0	1,479

2015

Project No: M-1 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Description:

1,479 Meters total to be replaced in Routes 1019, 1061, 1111, 1112, 1113, 1114, 1115 and 1116. These meters are 12 to 16 years old; most are at least 15 years old.

Legend

Target Routes

Other Routes

N

680 340 0 680 1,360 2,040 2,720 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Number: M-1	Project Location: Meter routes 1019, 1061, and 1111-1116

Project Description:

Replace 1,408 - 5/8", 2 - 3/4", 39 – 1", and 30 – 2" (1,479 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
1,408	5/8" Meter	139	New Meter	$ 195,402
2	3/4" Meter	159	New Meter	$ 318
39	1" Meter	194	New Meter	$ 7,564
30	2" Meter	350	New Meter	$ 10,496
943.4	hours	28	Labor to install new 5/8" meters*	$ 26,414
1.3	hours	28	Labor to install new 3/4" meters*	$ 38
26.1	hours	28	Labor to install new 1" meters*	$ 732
60.0	hours	28	Labor to install new 2" meters*	$ 1,680
Subtotal				$ 242,644
General Overhead Rate on Labor and Capital (10%)				$ 24,264
Total Estimated Cost				**$ 266,908**

*Company labor includes the salary for two employees at a rate of $28/hour for 20 minutes each for 5/8", 3/4", and 1" meters, 45 minutes each for 1 1/2" meters, 1 hour each for 2" meters, and 2 hours each for meters larger than 2".

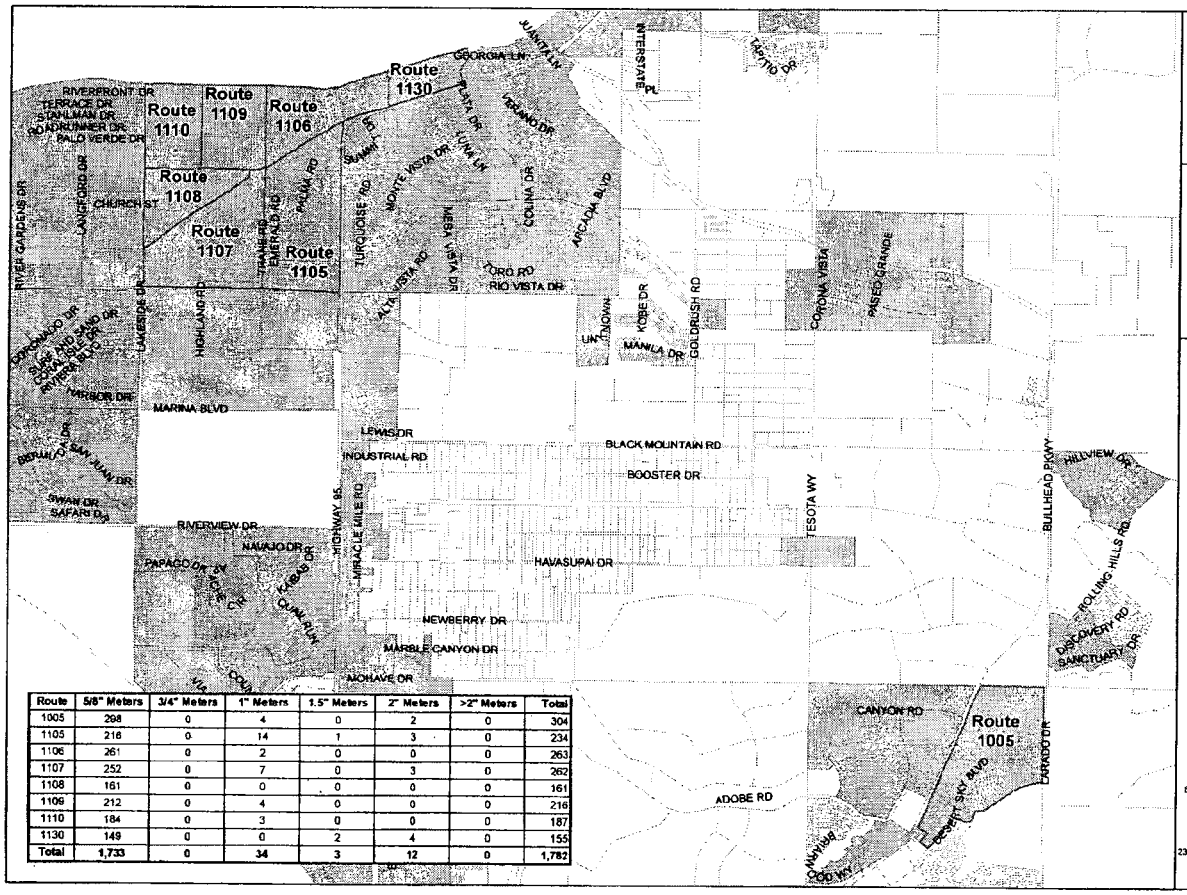
Mohave Water District, Mohave System – PWS ID No. 08-032

SIB PLANT TABLE I, 4-2

2016 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-2	334	meters	1,782	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1005, 1105-1110, and 1130 (see map M-2 in Exhibit CC-1)	12/2016	n/a	$314,733	Replace 1,733 - 5/8", 34 – 1", 3 – 1.5", and 12 – 2" (1,782 total) meters in Mohave district meter routes 1005, 1105-1110, and 1130. The existing meters in these routes will be between 12 and 17 years old at the time of replacement; most will be at least 16 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-2 in Exhibit CC-1-A for more detail.
Total			**1,782**							**$314,733**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	>2" Meters	Total
1005	298	0	4	0	2	0	304
1105	216	0	14	1	3	0	234
1106	261	0	2	0	0	0	263
1107	252	0	7	0	3	0	262
1108	161	0	0	0	0	0	161
1109	212	0	4	0	0	0	216
1110	184	0	3	0	0	0	187
1130	149	0	0	2	4	0	155
Total	1,733	0	34	3	12	0	1,782

2016

Project No: M-2 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Description:

1,782 Meters total to be replaced in Routes 1005, 1105, 1106, 1107, 1108, 1109, 1110 and 1130. These meters are 12 to 17 years old; most are at least 16 years old.

Legend

- Target Routes
- Other Routes

N

870 435 0 870 1,740 2,610 3,480 Feet

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

EPCOR WATER

Created 3/11/2016

EPCOR Water **Preliminary Cost Estimate**				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Number: M-2	Project Location: Meter routes 1005, 1105-1110, and 1130	

Project Description:

Replace 1,733 - 5/8", 34 – 1", 3 – 1.5", and 12 – 2" (1,782 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
1,733	5/8" Meter	139	New Meter	$ 240,506
34	1" Meter	194	New Meter	$ 6,595
3	1.5" Meter	292	New Meter	$ 876
12	2" Meter	350	New Meter	$ 4,198
1,161.1	hours	28	Labor to install new 5/8" meters	$ 32,511
22.8	hours	28	Labor to install new 1" meters	$ 638
4.5	hours	28	Labor to install new 1.5" meters	$ 126
24.0	hours	28	Labor to install new 2" meters	$ 672
Subtotal				$ 286,121
General Overhead Rate on Labor and Capital (10%)				$ 28,612
Total Estimated Cost				**$ 314,733**

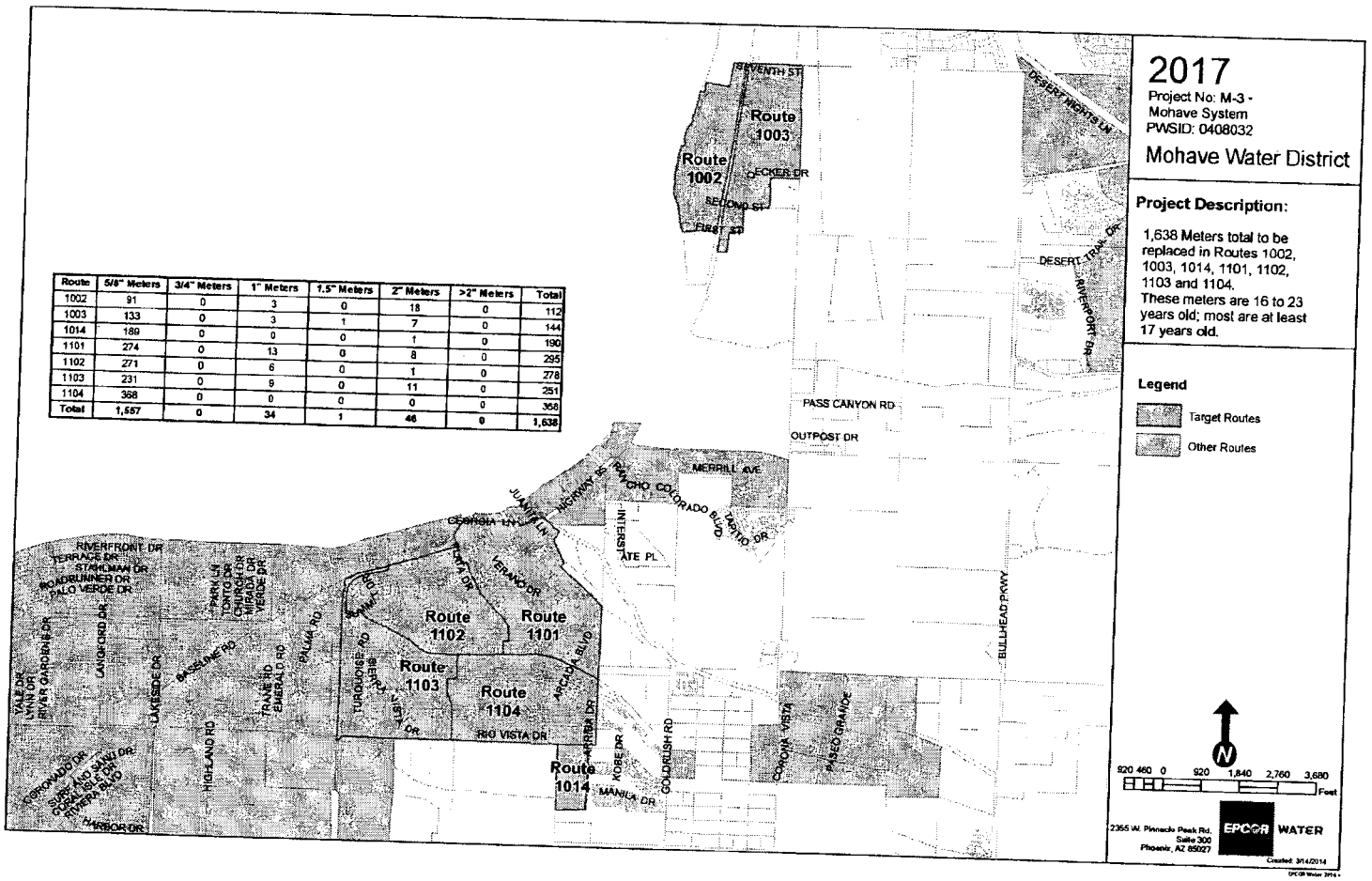
Mohave Water District, Mohave System – PWS ID No. 08-032

SIB PLANT TABLE I, 4-3

2017 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-3	334	meters	1,638	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1002, 1003, 1014, and 1101-1104 (see map M-3 in Exhibit CC-1)	12/2017	n/a	$298,679	Replace 1,557 - 5/8", 34 – 1", 1 – 1.5", and 46 – 2" (1,638 total) meters in Mohave district meter routes 1002, 1003, 1014, and 1101-1104. The existing meters in these routes will be between 16 and 23 years old at the time of replacement; most will be at least 17 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-3 in Exhibit CC-1-A for more detail.
Total			**1,638**							**$298,679**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	>2" Meters	Total
1002	91	0	3	0	18	0	112
1003	133	0	3	1	7	0	144
1014	189	0	0	0	1	0	190
1101	274	0	13	0	8	0	295
1102	271	0	6	0	1	0	278
1103	231	0	9	0	11	0	251
1104	368	0	0	0	0	0	368
Total	1,557	0	34	1	46	0	1,638

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Number: M-3	Project Location: Meter routes 1002, 1003, 1014, and 1101-1104

Project Description:

Replace 1,557 - 5/8", 34 – 1", 1 – 1.5", and 46 – 2" (1,638 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
1,557	5/8" Meter	139	New Meter	$ 216,080
34	1" Meter	194	New Meter	$ 6,595
1	1.5" Meter	292	New Meter	$ 292
46	2" Meter	350	New Meter	$ 16,094
1,043	hours	28	Labor to install new 5/8" meters	$ 29,209
23	hours	28	Labor to install new 1" meters	$ 638
2	hours	28	Labor to install new 1.5" meters	$ 42
92	hours	28	Labor to install new 2" meters	$ 2,576
				$ -
				$ -
				$ -
Subtotal				$ 271,526
General Overhead Rate on Labor and Capital (10%)				$ 27,153
Total Estimated Cost				**$ 298,679**

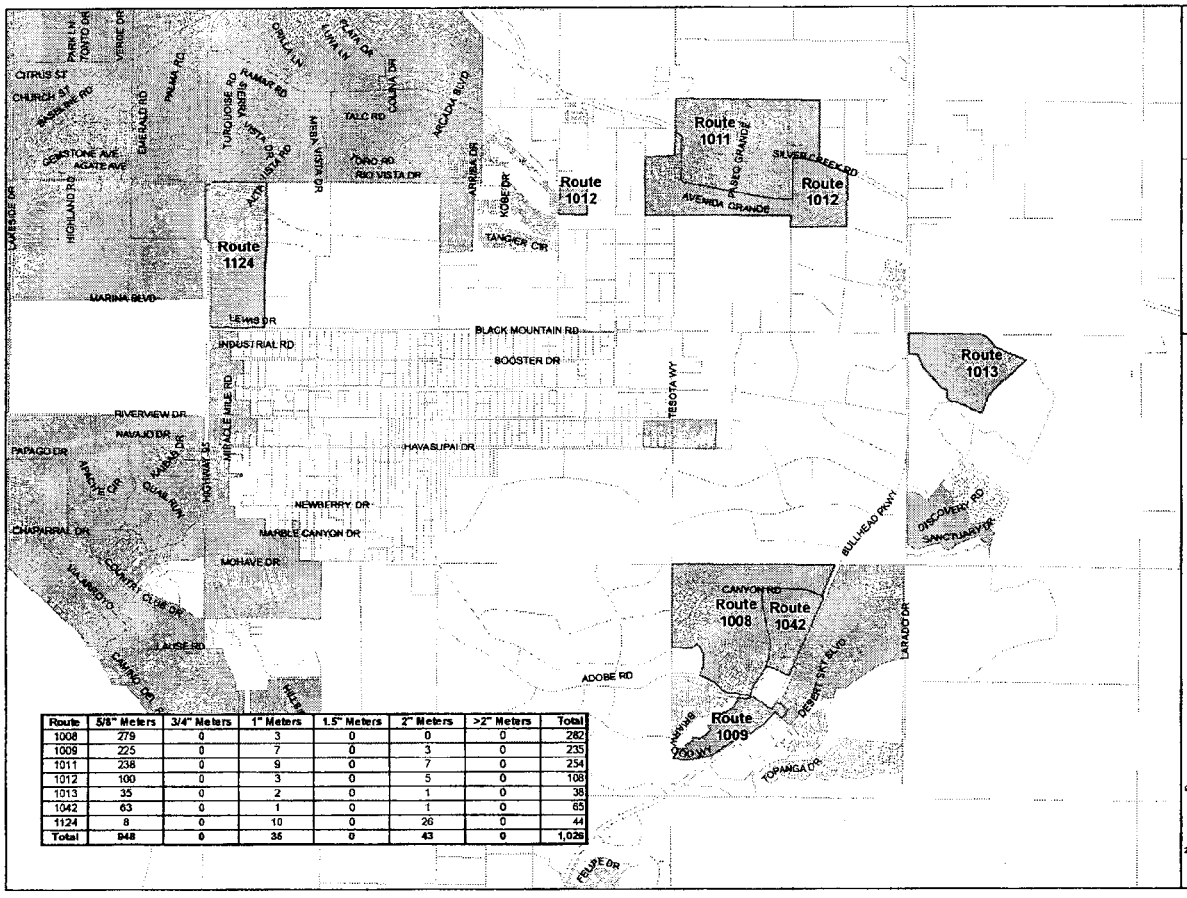
Mohave Water District, Mohave System – PWS ID No. 08-032

SIB PLANT TABLE I, 4-4

2018 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-4	334	meters	1,026	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1008, 1009, 1011-1013, 1042, and 1124 (see map M-4 in Exhibit CC-1)	12/2018	n/a	$191,670	Replace 948 - 5/8", 35 – 1", and 43 – 2" (1,026 total) meters in Mohave district meter routes 1008, 1009, 1011-1013, 1042, and 1124. The existing meters in these routes will be between 13 and 19 years old at the time of replacement; most will be at least 14 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-4 in Exhibit CC-1-A for more detail.
Total			**1,026**							**$191,670**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	>2" Meters	Total
1008	279	0	3	0	0	0	282
1009	225	0	7	0	3	0	235
1011	238	0	9	0	7	0	254
1012	100	0	3	0	5	0	108
1013	35	0	2	0	1	0	38
1042	63	0	1	0	1	0	65
1124	8	0	10	0	26	0	44
Total	948	0	35	0	43	0	1,026

2018

Project No: M-4 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Description:

1,026 Meters total to be replaced in Routes 1008, 1009, 1011, 1012, 1013, 1042, 1124.
These meters are 13 to 19 years old.

Legend

- Target Routes
- Other Routes

N

975 487.5 0 975 1,950 2,925 3,900 Feet

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

EPCOR WATER

Created 3/14/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Number: M-4	Project Location: Meter routes 1008, 1009, 1011-1013, 1042, and 1124

Project Description:

Replace 948 - 5/8", 35 – 1", and 43 – 2" (1,026 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
948	5/8" Meter	139	New Meter	$ 131,563
35	1" Meter	194	New Meter	$ 6,789
43	2" Meter	350	New Meter	$ 15,044
635.2	hours	28	Labor to install new 5/8" meters*	$ 17,784
23.5	hours	28	Labor to install new 1" meters*	$ 657
86.0	hours	28	Labor to install new 2" meters*	$ 2,408
Subtotal				$ 174,246
General Overhead Rate on Labor and Capital (10%)				$ 17,425
Total Estimated Cost				**$ 191,670**

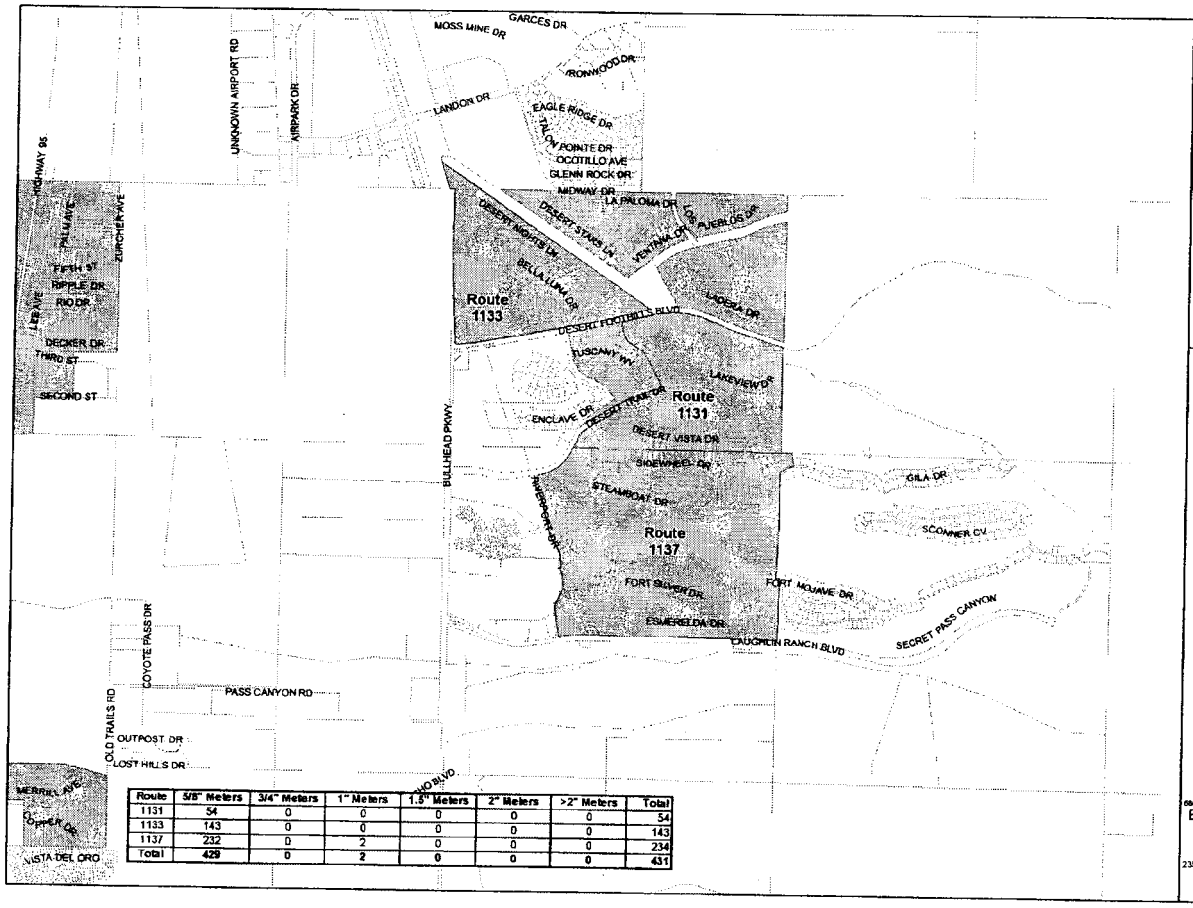
Mohave Water District, Desert Foothills System – PWS ID No. 08-137

SIB PLANT TABLE I, 4-5

2018 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-5	334	meters	431	5/8" to >2"	Copper/ Plastic	5/8"-$173 3/4"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1131, 1133, and 1137 (see map M-5 in Exhibit CC-1)	12/2018	n/a	$74,811	Replace 429 - 5/8" and 2 – 1" (431 total) meters in Mohave district meter routes 1131, 1133, and 1137. The existing meters in these routes will be between 13 and 19 years old at the time of replacement; most will be at least 14 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-5 in Exhibit CC-1-A for more detail.
Total			**431**							**$74,811**	



Route	3/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	>2" Meters	Total
1131	54	0	0	0	0	0	54
1133	143	0	0	0	0	0	143
1137	232	0	2	0	0	0	234
Total	429	0	2	0	0	0	431

2018

Project No: M-5 -
Desert Foothills System
PWSID: 0408137

Mohave Water District

Project Description:

431 Meters total to be replaced in Routes 1131, 1133, 1137.
These meters are 13 to 19 years old.

Legend

- Target Routes
- Other Routes

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Desert Foothills System	Project Number: M-5	Project Location: Meter routes 1131, 1133, and 1137	
Project Description: Replace 429 - 5/8" and 2 – 1" (431 total) meters.				

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
429	5/8" Meter	139	New Meter	$ 59,537
2	1" Meter	194	New Meter	$ 388
287.4	hours	28	Labor to install new 5/8" meters*	$ 8,048
1.3	hours	28	Labor to install new 1" meters*	$ 38
Subtotal				$ 68,010
General Overhead Rate on Labor and Capital (10%)				$ 6,801
Total Estimated Cost				**$ 74,811**

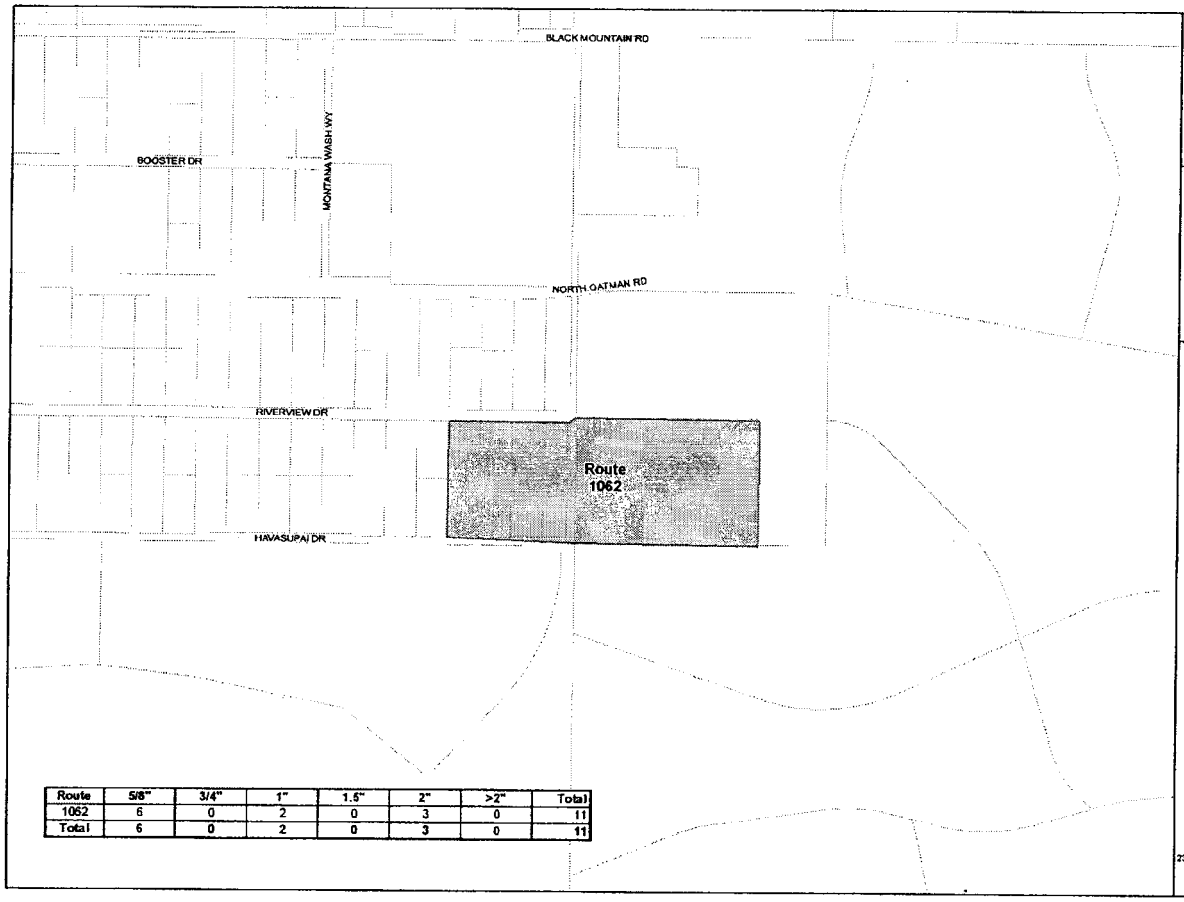
Mohave Water District, Mohave System – PWS ID No. 08-032

SIB PLANT TABLE I, 4-6

2019 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-6	334	meters	11	5/8" to >2"	Copper/ Plastic	5/8"-$173, ¾"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Route 1062 (see map M-6 in Exhibit CC-1)	12/2019	n/a	$2,847	Replace 6 - 5/8", 2 – 1", and 3 – 2" (11 total) meters in Mohave district meter route 1062. The existing meters in these routes will be between 13 and 19 years old at the time of replacement; most will be at least 14 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-6 in Exhibit CC-1-A for more detail.
Total			**11**							**$2,847**	



Route	5/8"	3/4"	1"	1.5"	2"	>2"	Total
1062	6	0	2	0	3	0	11
Total	6	0	2	0	3	0	11

2019

Project No: M-6 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Description:

11 Meters total to be replaced in Route 1062. These meters are 13 to 19 years old.

Legend

Target Routes

Other Routes

N

210 105 0 210 420 630 840 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Mohave System	Project Number: M-6	Project Location: Meter route 1062

Project Description:

Replace 6 - 5/8", 2 – 1", and 3 – 2" (11 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
6	5/8" Meter	139	New Meter	$ 833
2	1" Meter	194	New Meter	$ 388
3	2" Meter	350	New Meter	$ 1,050
4.0	hours	28	Labor to install new 5/8" meters*	$ 113
1.3	hours	28	Labor to install new 1" meters*	$ 38
6.0	hours	28	Labor to install new 2" meters*	$ 168
Subtotal				$ 2,588
General Overhead Rate on Labor and Capital (10%)				$ 259
Total Estimated Cost				**$ 2,847**

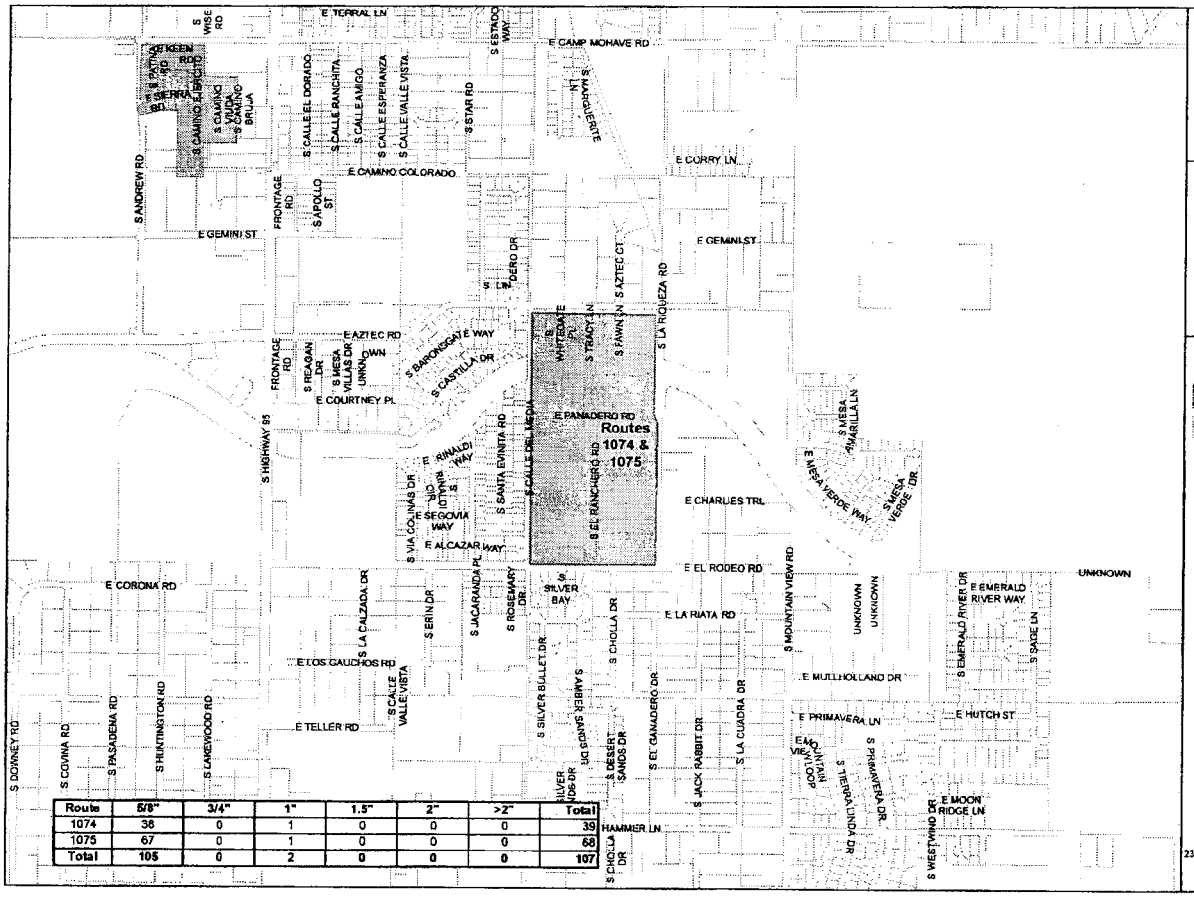
Mohave Water District, Rio Vista System – PWS ID No. 08-333

SIB PLANT TABLE I, 4-7

2019 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers 5. Provides reference to related page No in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-7	334	meters	107	5/8" to >2"	Copper/ Plastic	5/8"-$173, ¾"-$195 1"-$234 1½"-$367 2"-$447 >2"-$1,223	Meter Routes 1074 and 1075 (see map M-7 in Exhibit CC-1)	12/2019	n/a	$18,664	Replace 105 - 5/8", and 2 - 1" (107 total) meters in Mohave district meter routes 1074 and 1075. The existing meters in these routes will be between 13 and 19 years old at the time of replacement; most will be at least 14 years old. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy The new meters will help reduce system water loss. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map M-7 in Exhibit CC-1-A for more detail
Total			**107**							**$18,664**	



Route	5/8"	3/4"	1"	1.5"	2"	>2"	Total
1074	38	0	1	0	0	0	39
1075	67	0	1	0	0	0	68
Total	105	0	2	0	0	0	107

2019

Project No: M-7 •
Rio Vista System
PWSID: 0408333

Mohave Water District

Project Description:

107 Meters total to be replaced in Routes 1074 and 1075. These meters are 13 to 19 years old.

Legend

- Target Routes
- Other Routes

N

370185 0 370 740 1,110 1,480 Feet

2355 W. Pinnacle Peak Rd.
Suite 200
Phoenix, AZ 85027

EPCOR WATER

Created: 3/14/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Mohave Water District, Rio Vista System	Project Number: M-7	Project Location: Meter routes 1074 and 1075

Project Description:

Replace 105 - 5/8" and 2 – 1" (107 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
105	5/8" Meter	139	New Meter	$ 14,572
2	1" Meter	194	New Meter	$ 388
70.4	hours	28	Labor to install new 5/8" meters*	$ 1,970
1.3	hours	28	Labor to install new 1" meters*	$ 38
Subtotal				$ 16,967
General Overhead Rate on Labor and Capital (10%)				$ 1,697
Total Estimated Cost				**$ 18,664**

SECTION 1 – SERVICES

1.1 Overview

Although there are multiple systems in EPCOR's Mohave Water District, this section pertains to the Mohave system since all of the proposed service replacements are in this system. Based on the current customer count in this system, there are about 14,400 active service laterals. Most of these services were installed between 1960 and 1980. Replacement of service lines is a priority for a number of reasons, including the age of the service lines, the fact that many of the service lines were constructed to feed more than one customer, and the material of the pipe.

1.2 Nessie Curve

A "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it; this is to say when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

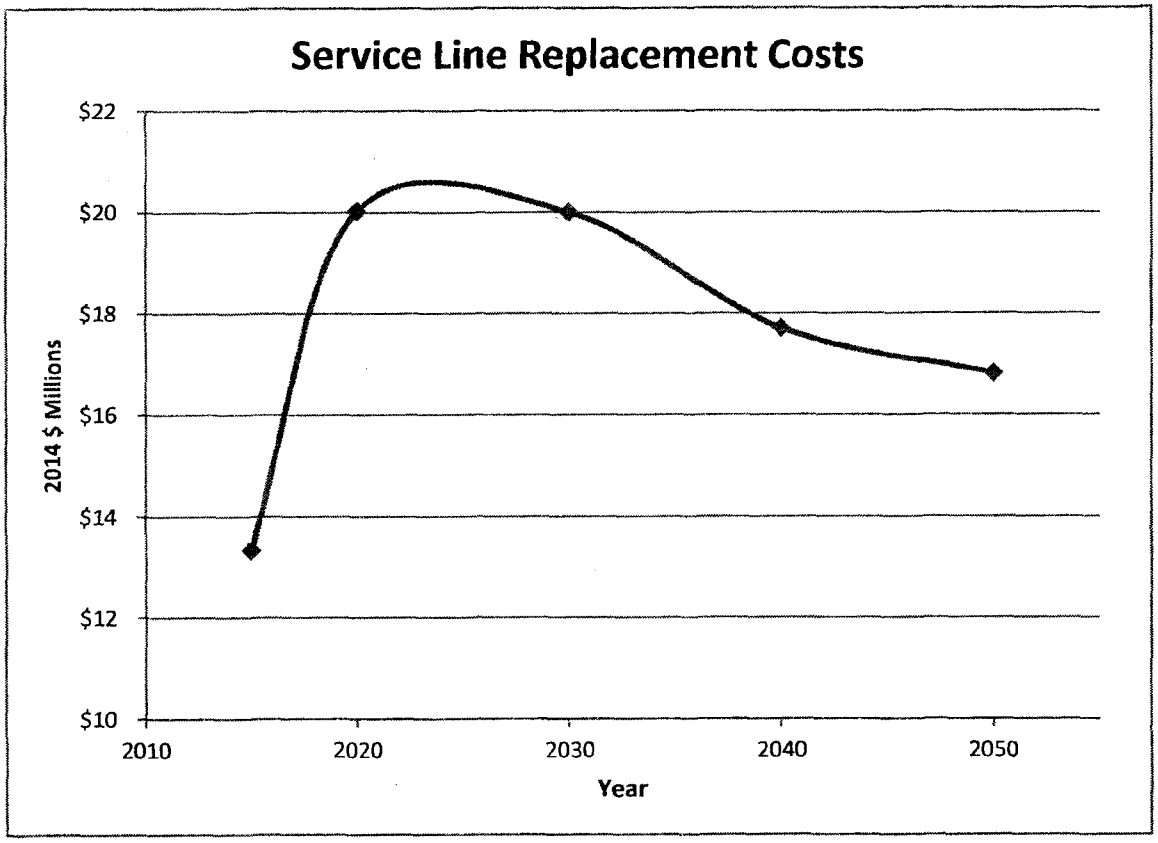
According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water

[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

Exhibit 1-1 is the Nessie curve which was developed specifically for the service lines in the Mohave system. Exhibit 1-2 shows this same data in tabular format. The curve shows that indeed the cost of replacement will be the highest between now and 2030, as predicted by AWWA. It shows that in the next six years, from 2015 through 2020, approximately $20 million should be invested in service line replacements in order to offset the rate at which the services are failing. This equates to about 860 service replacements per year, or an investment of about $3.3 million per year just in service line replacements.

Exhibit 1-1 – Service Line Nessie Curve



[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

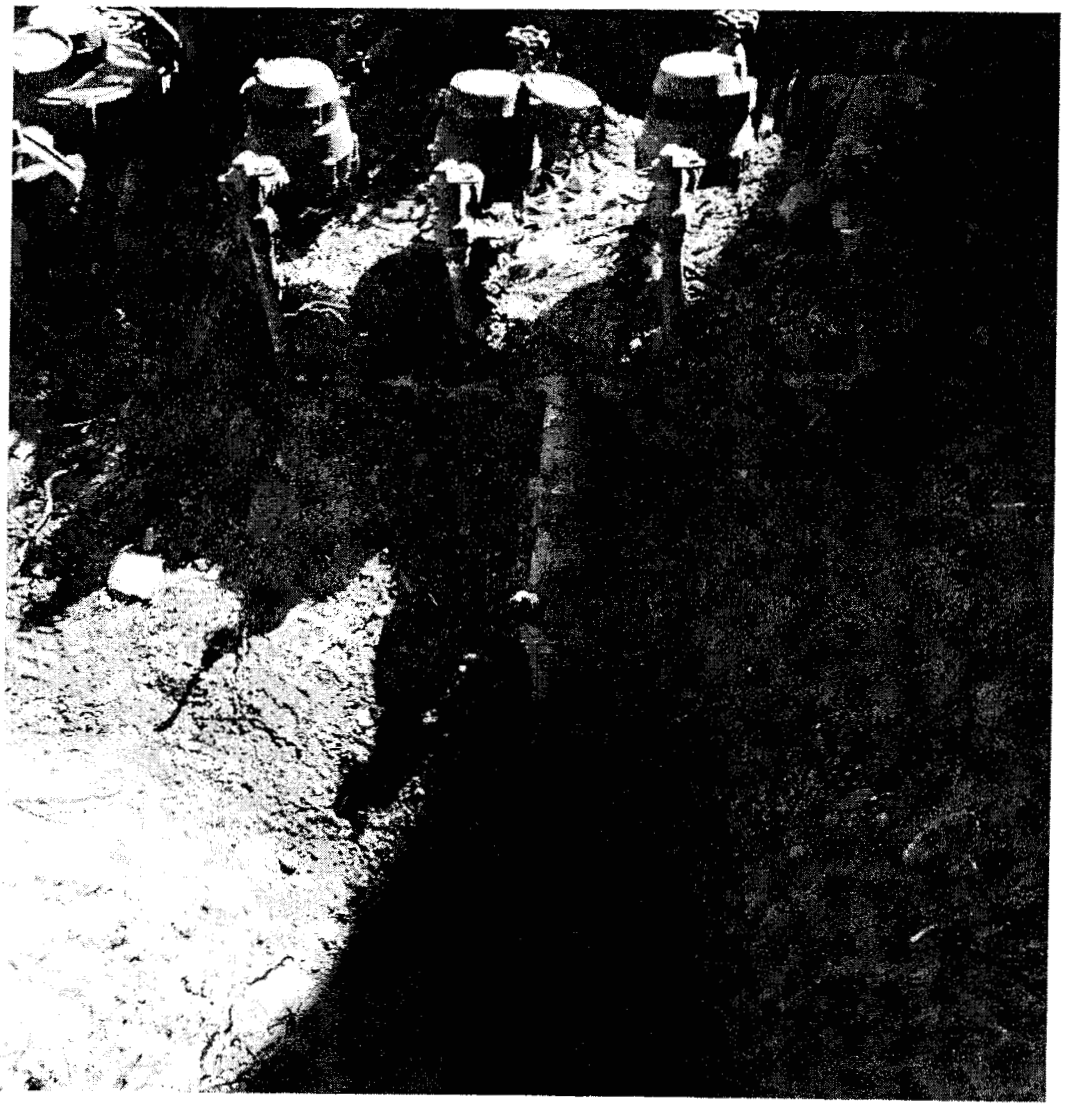
Exhibit 1-2 Nessie Curve Table

Time Frame	Number of Services to be Installed	Cost to Replace Services	Number of Service Replacements per Year	Cost per Year
today-2020	5157	$ 20,015,193	860	$ 3,335,866
2020-2030	5152	$ 19,994,035	515	$ 1,999,403
2030-2040	4562	$ 17,705,994	456	$ 1,770,599
2040-2050	4333	$ 16,817,919	433	$ 1,681,792

1.3 Service Lines Serving Multiple Customers

When much of the original Mohave water system was constructed, single service lines to serve two (or more) properties were installed; a single service was installed from the water main to a common property boundary at the curb line where a manifold was installed splitting the service line to feed two or more residential meters. Exhibit 1-3 shows a 2" service supplying four meters. Throughout the system, the majority of the branched services are 1" services supplying two ¾" meters, while some are 1 ½" or 1 ¼" services that branch into four 1" or ¾" meters. This causes problems with pressure and flow for the customers, as well as for EPCOR employees who need to terminate or shut off service to a single customer. In most cases, service lines serving more than one customer should be replaced with one service line per customer. The exception is when a service supplies very low-use customers, such as in a mobile home park. In these instances, services will remain split. Replacement of service lines in many cases will require that EPCOR replace each of the branched service lines with two (or four, as appropriate) new ¾" or 1" copper services, *i.e.*, one service line for each metered customer.

Exhibit 1-3 – 2" service supplying four meters



1.4 Service Line Material

The material that was used when the majority of the service lines were installed was polyethylene pipe (poly pipe). The use of this poly pipe is not appropriate in this region or for the system pressures in Bullhead City. The soil conditions and high system pressures cause a

high number of service line failures and leaks which contribute to unnecessary water loss and service disruption. The water from many service line leaks never surfaces because of the porous soil, causing the leaks to go undetected until they are uncovered at a later date. Exhibits 1-4 and 1-5 are pictures of failed poly pipe service lines that were recently found in the Mohave system.

Exhibit 1-4 – Black poly service line material failure

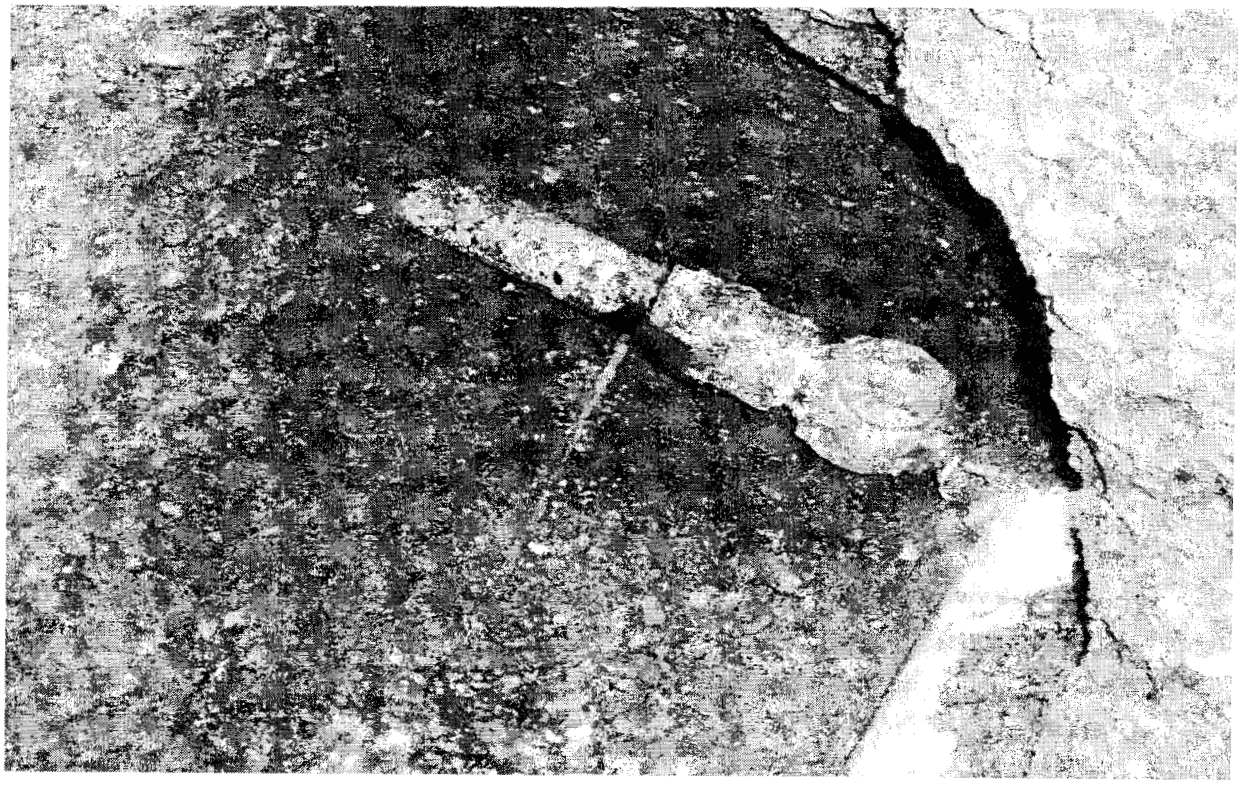


Exhibit 1-5 – Black poly service line material failure

1.5 Service Line Replacements

Historical service line replacements and repairs from 2003 through 2013 are shown in the following tab, **Historical Repair/Replacement Data**, which includes data from all water systems in the District. During this time frame, 998 services were replaced and 4,011 services were repaired because they were known to be failing, which is an average of approximately 455 service line failures per year. Note that this doesn't include service lines which are leaking, unbeknownst to EPCOR Water.

Although the Nessie curve indicates that 860 services should be replaced per year, this would present a significant labor and capital burden on EPCOR and its customers. Additionally, other assets including mains, valves, and meters must also be replaced. In order to develop a

replacement program that includes all types of failing assets while limiting the expenditures to a reasonable amount, EPCOR plans to replace a total of about 780 services at a cost of $3 million from 2015 through 2019. This equates to an average of about 155 services per year.

The following overview map shows the locations of the service line replacement projects. These projects are located in two general areas: Silver Creek (Projects S-1 through S-5) and River Bend (Projects S-6 through S-17). In the Silver Creek project area alone, 348 service repairs or replacements have been completed in the past ten years. In the River Bend project area, 151 repairs or replacements have been performed in the last ten years.

The projects are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019**. SIB Plant Table I, 1-1 through SIB Plant Table I, 1-5 provide detailed descriptions of each service line replacement project. The tables are broken down by year, so a separate table is provided for each year from 2015 (Table I, 1-1) through 2019 (Table I, 1-5). Each project addresses a set of service line replacements that will occur within a defined area. Each project can also be tied to a map showing the parcels where the proposed service lines will be replaced. A detailed cost estimate for each project is also provided.

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2631 Calle De Mercado	7/1/1985	10/1/2003	1"	Poly	
2635 Calle De Marcado	7/1/1985	10/1/2003	1"	Poly	
2599 Avenida Grande	7/1/1985	10/1/2003	1"	Poly	
2737 Avenida Grande	7/1/1985	11/24/2003	1"	Poly	
328 Sea Creek Dr	7/1/1967	12/12/2003	1"	ABS	
1773 Riverside DR	7/1/1967	1/9/2004	1"	1" Driscope	Could not locate svc
1481 Bluffs Cir	1/2/1972	1/12/2004	1"	1" Driscope	svc wrong location, Abandon Old Line
2768 Paloma Senda Dr	7/1/1985	1/23/2004	1"	1" Vanguard	
2866 Cresthill DR	9/15/1990	2/11/2004	1"	1" Vanguard	
557 & 559 Palo Verde Dr	4/10/1974	2/23/2004	1"	1"Dris/Vanguard	First Half Dris Second Half Vanguard
557 & 559 Palo Verde Dr	4/10/1974	2/23/2004	1"	1"Dris/Vanguard	First Half Dris Second Half Vanguard
1109 & 1112 Sahuaro Dr	7/1/1955	3/11/2004	1"	1" Vanguard	
1109 & 1112 Sahuaro Dr	7/1/1955	3/11/2004	1"	1" Vanguard	
1364 Paradise Ln	7/1/1955	3/12/2004	1"	1" Vanguard	
2706 Avienda Grande	7/1/1985	3/23/2004	1"	1" Vanguard	
1369 Willow Ln	7/1/1955	4/7/2004	1"	1" Vanguard	Jay digs were digging ,Svc started leaking
2345 & 2349 Half Moon Wy	6/30/1999	4/12/2004	1"	1" Vanguard	Two many Repairs To svc line due to Poor backfill
2345 & 2349 Half Moon Wy	6/30/1999	4/12/2004	1"	1" Vanguard	Two many Repairs To svc line due to Poor backfill
1476 Marina Pkwy	12/17/1990	5/17/2004	1"	1" Vanguard	went to abandonn svc line going across the street Svc was a Tee
1021 Mobile LN	7/1/1955	5/19/2004	1"	1" Vanguard	Condie hit svc line ,,,line was mismakred
1086 Mobile LN	7/1/1955	6/4/2004	1"	1" Vanguard	Hit By condie Mark was way off, Not condie fault
1064 Jocabima Dr	4/28/1972	6/8/2004	1"	1" Vanguard	Hit By condie Mark was good
1074 Jocabima Dr	4/28/1972	6/8/2004	1"	1" Vanguard	Hit By Condie marks were good
1096 Jocabima Dr	4/28/1972	6/14/2004	1"	1" Vanguard	HIt By Condie marks were good
1123 Jocabima Dr	4/28/1972	6/16/2004	1"	1" Vanguard	Hit By Condie marks were good
1115 Jocabima Dr	4/28/1972	6/16/2004	1"	1" Vanguard	svc started leaking while svc exposed
1032 Jocabima Dr	4/28/1972	6/22/2004	1"	1" Vanguard	Hit By Condie marks were good
2045 Havasu Cv	7/1/1967	6/29/2004	1"	1" Vanguard	Replaced Glue saddle
2879 Cresthill Dr	9/15/1990	7/2/2004	1"	1" Vanguard	
2851 Cresthill Dr	9/15/1990	7/6/2004	1"	1" Vanguard	
1084 Sahuaro Dr	7/1/1955	7/26/2004	1"	1" Vanguard	Svc started leaking due to Heavy Equipment Driving over
1083 Jocabima Dr	4/28/1972	8/3/2004	1"	1" Vanguard	Replaced to set new meter
1381 Paradise Ln	7/1/1955	8/16/2004	1"	1" Vanguard	
2633 Paloma Senda Dr	7/1/1985	8/18/2004	1"	1" Vanguard	
1378 Willow Dr	7/1/1955	8/18/2004	1"	1" Vanguard	Broke by condie mark was off
1393 Willow Dr	7/1/1955	8/23/2004	1"	1" Vanguard	Broke by Condie mark was off
2500 Valley Vista	7/1/1985	8/31/2004	1"	1" Vanguard	
1377 Ceder Ln	7/1/1955	9/1/2004	1"	1" Vanguard	Broke by Condie Marks were good

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
1394 & 1402 Willow Ave	7/1/1955	9/2/2004	1"	1" Vanguard	Condie hit svc line ,,,line was mismakred
2700 Paloma Senda Dr	7/1/1985	9/16/2004	1"	1" Vanguard	
2350 Half moon Way	6/30/1999	9/22/2004	1"	1" Vanguard	
929&931 Captains cove	7/1/1967	10/14/2004	1"	1" Vanguard	
929&931 Captains cove	7/1/1967	10/14/2004	1"	1" Vanguard	
2340 Half Moon Way	6/30/1999	10/18/2004	1"	1" Vanguard	
2998 Coyote Run	6/30/1999	10/22/2004	1"	1" Vanguard	
1514 GoldRush Rd	7/1/1994	10/26/2004	2"	2" Vanguard	
1686 Rio Vista Dr	9/3/1971	11/2/2004	1"	1" Vanguard	
2724 Palome Senda Dr	7/1/1985	11/2/2004	1"	1" Vanguard	
2874 Cresthill Dr	9/15/1990	11/3/2004	1"	1" Vanguard	
1101 Base line bay	10/31/1968	11/3/2004	1"	1" Vanguard	
2891 Hillview DR	11/27/1986	11/17/2004	1"	1" Vanguard	
2200 RiverView Dr		12/13/2004	1"	1" Vanguard	911 Building
2620 & 2630 Via Corona	7/1/1985	1/3/2005	1"	1" Vanguard	
2620 & 2630 Via Corona	7/1/1985	1/3/2005	1"	1" Vanguard	
1081 Mobile Ln	7/1/1955	1/6/2005	1"	1" Vanguard	
2509 Valley Vista	7/1/1985	1/7/2005	1"	1" Vanguard	
415 Anna Cir	7/1/1980	1/10/2005	3/4"	1" Vanguard	Installed two 1" svc to replace three Single 3/4" lines
1089 & 1093 Mobil Ln	7/1/1955	1/12/2005	1"	1" Vanguard	
1089 & 1093 Mobil Ln	7/1/1955	1/12/2005	1"	1" Vanguard	
2855 Cresthill Dr	9/15/1990	1/18/2005	1"	1" Vanguard	
2515 Valley Vista	7/1/1985	1/18/2005	1"	1" Vanguard	
1051 Jocabima Dr	4/28/1972	2/4/2005	1"	1" Vanguard	
1002 Jocabima Dr	4/28/1972	2/7/2005	1"	1" Vanguard	
314 Nevada Dr	7/1/1967	2/17/2005	3/4"	1" Vanguard	
279 & 283 Thunderbird Ln	7/1/1967	3/2/2005	3/4"	1" Vanguard	
279 & 283 Thunderbird Ln	7/1/1967	3/2/2005	3/4"	1" Vanguard	
2824 Camino Del Rio	5/9/1980	3/7/2005	1"	1" Vanguard	
190 Riverside Dr	7/1/1967	3/15/2005	1"	1" Vanguard	
1560 Loma Vista Rd	4/28/1972	3/25/2005	1"	1" Vanguard	
2748 Avienda Grande	7/1/1985	3/28/2005	1"	1" Vanguard	
2966 Camino Del Rio	5/9/1980	4/7/2005	1"	1" Vanguard	
2584 Aveinda Grande	7/1/1985	4/13/2005	1"	1" Vanguard	
1809 Surf Cove	9/22/1982	4/14/2005	1"	1" Vanguard	
2899 Hillview Dr	11/27/1986	4/27/2005	1"	1" Vanguard	
1905 Merced Dr	7/1/1967	5/8/2005	1"	Vanguard	Pulled svc through old svc
2787 Avienda Grande	7/1/1985	5/16/2005	1"	1" Vanguard	
595 Holly St	4/10/1974	5/24/2005	1"	1" Vanguard	
2332 Half moon way	6/30/1999	5/26/2005	1"	1" Vanguard	
688,680 Lilac 679,685 Primrose	12/13/1977	5/26/2005	1"	1" Vanguard	Replaced two svc lines
688,680 Lilac 679,685 Primrose	12/13/1977	5/26/2005	1"	1" Vanguard	Replaced two svc lines
688,680 Lilac 679,685 Primrose	12/13/1977	5/26/2005	1"	1" Vanguard	Replaced two svc lines
688,680 Lilac 679,685 Primrose	12/13/1977	5/26/2005	1"	1" Vanguard	Replaced two svc lines
1755 Rio Vista DR	9/3/1971	6/8/2005	1"	1" Vanguard	
314 Santa Cruz Ave	7/1/1967	6/15/2005	1"	1" Vanguard	Replaced 314,310,309,315 Svc lines
2877 Country Hills Rd	9/15/1990	6/28/2005	1"	1" Vanguard	
2424 7th Street	1/10/1972	6/28/2005	1"	1" Vanguard	relocated service line for customer
2883 Hillview Dr	11/27/1986	7/7/2005	1"	1" Vanguard	
2368 Juneberry Cir	8/31/2000	7/7/2005	1"	1" Vanguard	
2896 Cresthill Dr	9/15/1990	7/28/2005	1"	1" Vanguard	
1735 Corona Vista	7/1/1985	8/1/2005	1"	1" Vanguard	
2990 Coyote Run	6/30/1999	8/3/2005	1"	1" Vanguard	
2850 Cresthill Dr	9/15/1990	8/9/2005	1"	1" Vanguard	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2867 Cresthill Dr	9/15/1990	8/18/2005	1"	1" Vanguard	
2889 Country Hills RD	9/15/1990	8/18/2005	1"	1" Vanguard	
1033 Paradise Ln	7/1/1955	8/19/2005	1"	1" Vanguard	
2547 Sundown Cir	2/3/2000	8/23/2005	1"	1" Vanguard	
2898 Cresthill Dr	9/15/1990	8/30/2005	3/4"	1" Vanguard	Svc is on Rolling hills replaced due to break
2897 Rolling Hills Rd		8/30/2005	3/4"	1" Vanguard	
2887 Cresthill Dr	9/15/1990	9/19/2005	1"	1" Vanguard	
1936 E Robson Cir	7/1/1967	9/23/2005	1"	1" Vanguard	
2354 & 2358 Half Moon way	6/30/1999	10/3/2005	1"	1" Vanguard	
2354 & 2358 Half Moon way	6/30/1999	10/3/2005	1"	1" Vanguard	
1944 Riverside Dr	7/1/1967	10/4/2005	1"	1" Vanguard	
2882 Cresthill Dr	9/15/1990	10/19/2005	1"	1" Vanguard	
2991 Coyote Run	6/30/1999	10/20/2005	1"	1" Vanguard	
2878 Hillview Dr	11/27/1986	10/24/2005	1"	1" Vanguard	
2894 Hillview Dr	11/27/1986	10/24/2005	1"	1" Vanguard	
2859 Cresthill Dr	9/15/1990	10/25/2005	1"	1" Vanguard	
2663 Avienda Grande	7/1/1985	11/5/2005	1"	1" Vanguard	
2891 Cresthill Dr	9/15/1990	11/7/2005	1"	1" Vanguard	
545 Ramar Rd	4/10/1974	11/15/2005	1"	1" Vanguard	
1162 Zircon Ave	1/16/1968	12/28/2005	1"	1" Vanguard	
2725 Paloma Senda Dr	7/1/1985	1/22/2006	1"	Vanguard	Emergency Order
1110 Baseline RD	1/16/1968	1/26/2006	1"	Vanguard	
1775 Tejon Dr	7/1/1959	2/22/2006	1"	Vanguard	Emergency Order
2717 Avienda Grande	7/1/1985	3/14/2006	1"	Vanguard	Emergency Order
1602 Corona Redonda		4/19/2006	1'	Vanguard	Corner lots on Corona Rednoda & Silver Creek
2784 Paloma Senda Dr	7/1/1985	4/26/2006	1"	Vanguard	
2792 Paloma Senda Dr	7/1/1985	5/2/2006	1"	Vanguard	
1406 Lakeside Dr	7/1/1955	5/3/2006	1"	Vanguard	Replaced due to plugged saddle
2633 Avienda Grande	7/1/1985	5/5/2006	1"	Vanguard	
1717 Corona Vista	7/1/1985	5/8/2006	1"	Vanguard	
2371 Juneberry Cir	8/31/2000	5/17/2006	1"	Vanguard	
2879 Grandhill Rd	9/15/1990	5/26/2006	1"	Vanguard	
2342 Shooting Star Dr	2/6/2001	6/9/2006	1"	Vanguard	
2755 Avienda Grande	7/1/1985	6/18/2006	1"	Vanguard	
2591 Avienda Grande	7/1/1985	6/28/2006	1"	Vanguard	
2764 Avienda Grande	7/1/1985	6/29/2006	1"	Vanguard	
2839 Winchester Rd		6/29/2006	1"	Vanguard	
2625 Avienda Grande	7/1/1985	7/10/2006	1"	Vanguard	
2521 Calle De Allegro	7/1/1969	8/2/2006	1"	Vanguard	Bad Glued saddle
2426 Castle Rock Cir	7/1/1967	8/4/2006	1"	Vanguard	
2870 Hillview Dr	11/27/1986	8/9/2006	1"	Vanguard	Pulled svc through old svc
206 Lee Ave	7/1/1970	9/5/2006	1"	Vanguard	(Alley)
1470 Summit Dr	4/14/1968	9/8/2006	1"	Vanguard	Replaced due to Condie hit svc line
196 Tanglewood Ln	7/1/1967	9/12/2006	1"	Vanguard	Plugged saddle
399 Santa Maria Rd	7/1/1967	9/12/2006	1"	Vanguard	Plugged saddle
2380 Columbus Dr	4/15/2003	9/20/2006	1"	Vanguard	Replaced svc
1396 Dorado way	3/2/1971	9/21/2006	1"		Replaced svc in two sections
2350 Adobe Rd	11/1/2003	10/11/2006	1"	Vanguard	
2701 Paloma Senda Dr	7/1/1985	10/19/2006	1"	Vanguard	
2800 Mercado Ct	7/1/1985	11/2/2006	1"	Vanguard	
1758 Rio Grande Rd	7/1/1967	11/14/2006	1"	Vanguard	Plugged saddle
643 Stahlman Dr	3/17/1975	11/21/2006	1"	Vanguard	Plugged saddle
1105 Hwy 95	7/1/1970	2/20/2007	1"	J-M	
2733 Avienda Grande	7/1/1985	3/1/2007	1"	J-M	

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ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
865 Hancock Rd	2/5/1973	3/22/2007	1"	J-M	
1376 Riverfront Dr	6/23/1968	4/5/2007	1"	J-M	
736 River grandens Dr	7/1/1959	4/6/2007	1"	J-M	Replaced service due to SWP Main Break
1927 Castleberry Ln	7/1/1967	5/9/2007	1"	Vanguard	
849 Hancock Rd	12/5/1973	5/22/2007	1"	Vanguard	
2350 Adobe Rd	11/1/2003	5/27/2007	1"	J-M	
2795 Avienda Grande	7/1/1985	5/30/2007	1"	Copper	
2350 Adobe Rd	11/1/2003	6/17/2007	1"	J-M	
2350 Adobe Rd	11/1/2003	6/18/2007	1"	J-M	
1096,1081,1092 Sahuaro Dr	7/1/1955	6/19/2007	1"	J-M	
1096,1081,1092 Sahuaro Dr	7/1/1955	6/19/2007	1"	J-M	
1096,1081,1092 Sahuaro Dr	7/1/1955	6/19/2007	1"	J-M	
2659 Avienda Grande	7/1/1985	7/18/2007	1"	Copper	
1756 Rio Grande Rd	7/1/1967	8/9/2007	1"	J-M	Pluged saddle
915/911 Gemstone		8/20/2007	1",1",1",1"	J-M	Replaced 4 svc lines
2610 Via Arroyo	7/1/1972	9/10/2007	1"	Pvc	Leak at main replaced svc
2737 Avienda Grande	7/1/1985	10/8/2007	1"	J-M	
2350 Adobe Rd	11/1/2003	11/14/2007	1",1"	J-M	Replaced two svc lines
2584 Avienda Grande	7/1/1985	11/18/2007	1"	Dris	
1867 Riverside Dr	7/1/1967	11/21/2007	1"	J-M	
2469 Riverview Dr	12/5/1990	2/4/2008	1"	Copper	
801,807 Gemstone	12/5/1973	2/25/2008	1",1",1"1"	Copper	Replaced 4 svc line
801,807 Gemstone	12/5/1973	2/25/2008	1",1",1"1"	Copper	Replaced 4 svc line
2898 Hillview Dr	11/27/1986	2/28/2008	1"	Copper	
2879 Hillview Dr	11/27/1986	3/5/2008	1"	Copper	
2430 hwy 95		3/6/2008	1"	Copper	
2430 Canyon Dr	2/24/1992	3/7/2008	1"	Copper	
2687 Avienda Grande	7/1/1985	3/24/2008	1"	Copper	
2874 Cresthill Dr	9/15/1990	3/26/2008	1"	Copper	
2859 Cresthill Dr	9/15/1990	3/26/2008	1"	Copper	
1763 El Cazador	7/1/1985	4/1/2008	1"	Copper	
2437 Bluebird Ln	5/19/2000	4/3/2008	1"	Copper	
1147 Peartree Ln	7/1/1972	4/3/2008	1"	Copper	
2390 Bluebird Ln	8/31/2000	4/8/2008	1"	Copper	
2346 Halfmoon Way	6/30/1999	4/8/2008	1"	Copper	
2496 Riverview Dr	12/5/1990	4/16/2008	1"	Copper	
2534 Fox Ridge Ln	5/9/1996	4/22/2008	3/4"	Copper	
422 Patillo Dr	7/1/1980	5/30/2008	3/4"	Copper	
2350 Adobe Rd	11/1/2003	5/31/2008	1"	J-m	
2705 Avienda Grande	7/1/1985	6/6/2008	1"	Copper	
2529 Rolling Hills Rd	11/27/1986	6/26/2008	1"	Copper	
2705 Avienda Grande	7/1/1985	6/30/2008	1"	Copper	
635 Primrose Ln	12/13/1977	7/11/2008	3/4"	J-m	Two days to fix, under shed and wall
2891 Hillview Dr	11/27/1986	7/31/2008	1"	Copper	
2500 Valley Vista Dr	7/1/1985	8/5/2008	1"	Copper	
2625 Paloma Senda Dr	7/1/1985	8/11/2008	1"	Copper	
1737 Corona Vista	7/1/1985	8/11/2008	1"	Copper	
2699 Paloma Senda Dr	7/1/1985	8/14/2008	1"	Copper	
2350 Adobe Rd	11/1/2003	8/15/2008	1"	Copper	
2350 Adobe Rd	11/1/2003	8/22/2008	1"	Copper	
2737 Paloma Senda Dr	7/1/1985	8/27/2008	1"	Copper	
Desert Sky & Adobe Rd	11/20/1997	8/29/2008	1"	Copper	
2430 Highland Trl	9/1/2004	9/9/2008	1"	Copper	
2326 Silverthorne Dr	5/30/2006	9/17/2008	1"	Copper	
2700 Paloma Senda Dr	7/1/1985	9/22/2008	1"	Copper	
2350 Adobe Rd	11/1/2003	10/2/2008	1"	Copper	
2488 Sonoma Rd	7/1/2008	10/2/2008	1"	Copper	

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ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2442 Bluebird Ln	5/19/2000	10/3/2008	1"	Copper	
3094 Sienna Dr	7/1/2008	10/5/2008	1"	Copper	
2290 Silverthorne Dr	12/16/2003	10/8/2008	1"	Copper	
2627 & 2631 Calle De Mercado	7/1/1985	10/10/2008	1"	Copper	
2627 & 2631 Calle De Mercado	7/1/1985	10/10/2008	1"	Copper	
2350 Adobe Rd	11/1/2003	10/11/2008	1"	Copper	
1590 Emerald Rd	1/19/1966	10/13/2008	1"	Copper	
2528 Fox Run Ln	5/9/1996	10/16/2008	1"	Copper	
2389 Bluebird Ln	8/31/2000	10/17/2008	1"	Copper	
2530 Valley Vista	7/1/1985	11/8/2008	1"	Copper	
1990 Riverbend Cir	7/1/1967	11/21/2008	1"	Copper	
3094 Sienna Dr	7/1/2008	11/23/2008	1"	Copper	
2898 Grandhill Rd	9/15/1990	11/29/2008	3/4"	Copper	
2755 Paloma Senda Dr	7/1/1985	11/30/2008	1"	Copper	
3065 Milano DR	7/1/2008	11/30/2008	1"	Copper	
2640 Discovery Rd	6/3/2005	12/1/2008	1"	Copper	
2866 Creathill Dr	9/15/1990	12/2/2008	1"	Copper	
2620 Via Corona	7/1/1985	12/16/2008	1"	Copper	
2885 Grandhill Rd	9/15/1990	1/12/2009	1"	Copper	
2894 Cresthill Dr	9/15/1990	1/21/2009	1"	Copper	
2664 Discovery Rd	6/3/2005	1/31/2009	1"	Copper	
2625 Via Corona	7/1/1985	2/2/2009	1"	Copper	
2687 Dalle De Mercado	7/1/1985	2/7/2009	1"	Copper	
2699 Calle De Mercado	7/1/1985	2/7/2009	1"	Copper	
2631 Discovery Rd	6/3/2005	2/10/2009	1"	Copper	
2477 Frontier Ln	9/1/2004	2/11/2009	1"	Copper	
2635 Calle De Mercado	7/1/1985	2/14/2009	1"	Copper	Two 1 " Svc lines
3017 Sienna Dr	7/1/2008	2/23/2009	1"	Copper	
Desert Sky & Frontier IRRIG	11/20/1997	2/25/2009	1"	Copper	
1830 Vanguard		2/25/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	2/26/2009	1"	Copper	
3048 Sienna Dr	7/1/2008	3/2/2009	1"	Copper	
2332 Soaring Eagle Dr	5/8/2002	3/4/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	3/11/2009	1"	Copper	
2760 Paloma Senda Dr	7/1/1985	3/13/2009	1"	Copper	
2542 Valley Vista Dr	7/1/1985	3/13/2009	1'	Copper	
2463 Fox Run Ln	5/9/1996	3/16/2009	1"	Copper	
2869 Winchester Rd	5/9/1996	3/16/2009	1"	Copper	
2998 Coyote Run	6/30/1999	3/17/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	3/20/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	3/20/2009	1"	Copper	
2319 Merrill Ave	7/1/1982	3/23/2009	3/4"	Copper	Installed 3/4" Copper
2870 Grandhill Rd	9/15/1990	3/25/2009	1"	Copper	
2449 Paseo Cisne	7/2/1971	3/25/2009	1"	Copper	
2728 Silver creek Rd	7/1/1985	3/26/2009	1"	Copper	Traffic control
2430 Sabino Dr	9/1/2004	4/2/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	4/3/2009	1"	Copper	
3030 Milano Dr	7/1/2008	4/8/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	4/8/2009	1"	Copper	
1345 Park Ln	10/6/1986	4/14/2009	1"	Copper	
2976 Ranch House Rd	4/15/2003	4/17/2009	1"	Copper	
2892 Cresthill Dr	9/15/1990	4/22/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	4/23/2009	1"	Copper	
2401 Bluebird Ln	5/19/2000	4/28/2009	1"	Copper	
2724 Silver Creek Rd	7/1/1985	5/13/2009	1"	Copper	Traffic control
2615 Rolling Hills Rd	6/3/2005	5/13/2009	1"	Copper	
2718 Paloma Senda Dr	7/1/1985	5/13/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	5/14/2009	1"	Copper	
2458 Highland Trl	9/1/2004	5/14/2009	1"	Copper	

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ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2512 Valley Vista	7/1/1985	5/17/2009	1"	Copper	
Adobe Rd & Mountain Pass	7/1/2008	5/19/2009	2"	Copper	IRRIG Meter, Hand Dig
2245 Edgewood Dr	7/1/2008	6/3/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	6/6/2009	1"	Copper	
2749 Springtime Ct	6/3/2005	6/9/2009	1"	Copper	
2561 Joushe Tree Ln	5/8/2007	6/9/2009	1"	Copper	
500 Roadrunner Dr	4/10/1974	6/11/2009	1"	Copper	
522 Roadrunner Dr	4/10/1974	6/11/2009	1"	Copper	
2736 Avienda Grande	7/1/1985	6/15/2009	1'	Copper	
2350 Adobe Rd	11/1/2003	6/17/2009	1"	Copper	
2432 Bluebird Ln	5/19/2000	6/22/2009	1"	Copper	
2464 Fox Run Ln	5/9/1996	6/25/2009	1"	Copper	
377 Churst St	7/1/1980	6/26/2009	1"	Copper	Abondon est svc under concrete drive way relocated
2731 Springtime Ct	6/3/2005	6/28/2009	1"	Copper	
3012 Milano Dr	7/1/2008	6/29/2009	1"	Copper	
2297 Silverthorne Dr	12/16/2003	6/30/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	7/1/2009	1"	Copper	
2551 Hwy 95	7/1/1972	7/7/2009	1"	Copper	Circle K, Traffic Control
3095 Sienna Dr	7/1/2008	7/9/2009	1"	Copper	
508 Roadrunner Dr	4/10/1974	7/9/2009	1"	Copper	
2455 Bluebird Ln	5/19/2000	7/13/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	7/15/2009	1"	Copper	
2259 Merrill Ave	7/1/1982	7/17/2009	1"	Copper	Svc replaced in two dates
3076 Sienna Dr	7/1/2008	7/20/2009	1"	Copper	
3045 Milano Dr	7/1/2008	7/20/2009	1"	Copper	
2507 Sundown Cir	2/3/2000	7/22/2009	1"	Copper	
2281 Merrill ave	7/1/1982	7/24/2009	1"	Copper	
3057 Milano Dr	7/1/2008	7/29/2009	1"	Copper	
1375 Park Ln	10/6/1986	7/29/2009	1"	Copper	
2383 Juneberry Cir	8/31/2000	8/3/2009	1"	Copper	
2436 Topanga Dr	7/1/2008	8/6/2009	1"	Copper	
2994 Coyote Run	6/30/1999	8/6/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	8/18/2009	1"	Copper	
2850 Hillview Dr	11/27/1986	8/20/2009	1"	Copper	
2877 Country Hills RD	9/15/1990	8/23/2009	1"	Copper	
2882 Hillview Dr	11/27/1986	8/28/2009	1"	Copper	
2478 Sonama Rd	7/1/2008	9/1/2009	1"	Copper	
2537 Valley Vista	7/1/1985	9/1/2009	1"	Copper	
2439 Highland Trl	9/1/2004	9/6/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	9/8/2009	1'	Copper	
2895 Grandhill Rd	9/15/1990	9/9/2009	1"	Copper	
2627 Sanctuary Dr	12/12/2004	9/11/2009	1"	Copper	
2799 Paloma Senda Dr	7/1/1985	9/11/2009	1"	Copper	
2478 Wilder Rd	9/1/2004	9/16/2009	1"	Copper	
2643 Sanctuary Dr	12/12/2004	9/16/2009	1"	Copper	
3077 Sienna Dr	7/1/2008	9/22/2009	1"	Copper	
2600 Silver Creek Rd	7/1/1985	9/22/2009	1"	Copper	
2466 Wilder Rd	9/1/2004	9/23/2009	1"	Copper	
2371 Juneberry Cir	8/31/2000	9/23/2009	1"	Copper	
2350 Adobe Rd	11/1/2003	9/26/2009	1"	Copper	
2860 Winchester Rd	5/9/1996	9/28/2009	1"	Copper	
2220 Balboa Dr	7/1/1967	9/30/2009	1"	Pvc	Replaced leaking saddle and svc that tied into 4 Meters
2435 Sabino Dr	9/1/2004	10/1/2009	1"	Copper	
2365 Bluebird Ln	8/31/2000	10/1/2009	1"	Copper	
2301 Merrill Ave	7/1/1982	10/6/2009	1"	Copper	

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ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2490 Highland Trl	2/3/2000	10/7/2009	1"	Copper	
2490 Highland Trl	2/3/2000	10/7/2009	2"	Copper	
2893 Country Hills Rd	9/15/1990	10/8/2009	1"	Copper	
2666 Sactury Dr	12/12/2004	10/13/2009	1"	Copper	
2488 Fox Run Ln	5/9/1996	10/26/2009	1"	Copper	
2868 Winchester Rd	5/9/1996	10/26/2009	1"	Copper	
2383 Bluebird Ln	8/31/2000	10/30/2009	1"	Copper	
2748 Avienda Grande	7/1/1985	11/2/2009	1"	Copper	
2730 Springtime Ct	6/3/2005	11/2/2009	1"	Copper	
2899 Hillview Dr	11/27/1986	11/3/2009	1"	Copper	
3061 Hwy 95	2/10/1986	11/8/2009	1"	Copper	Highway, Traffic control, Aspahlt replacement at night job
2446 Sabino Dr	9/1/2004	11/9/2009	1"	Copper	
2451 Sabino Dr	9/1/2004	11/9/2009	1"	Copper	
2408 Bluebird Ln	5/19/2000	11/9/2009	1"	Copper	
2202 Edgewood Dr	7/1/2008	11/13/2009	1"	Copper	
3084 Milano Dr	7/1/2008	11/17/2009	1"	Copper	
2535 Adode RD		11/17/2009	1"	Copper	IRRIG next 248
2598 Avienda Grande	7/1/1985	11/19/2009	1"	Copper	
2487 Sabino Dr	9/1/2004	11/21/2009	1"	Copper	While pulling copper svc line, bolt holding fitting hit 1/2" gas svc
2442 Highland Trl	9/1/2004	11/22/2009	1"	Copper	
2450 Highland Trl	9/1/2004	11/24/2009	1"	Copper	
2779 Paloma Senda Dr	7/1/1985	12/1/2009	1"	Copper	
2631 Lantana Dr	5/8/2007	12/15/2009	1"	Copper	
2580 Highland Trl	2/3/2000	12/16/2009	1"	Copper	
2452 Wilder Rd	9/1/2004	12/19/2009	1"	Copper	
1904 Oliver Dr	7/1/1967	12/20/2009	3/4"	Pvc	Leaking at glued saddle
2520 Highland trl	2/3/2000	12/27/2009	1"	Copper	
2479 Sabino Dr	9/1/2004	12/30/2009	1"	Copper	
3004 Milano Dr	7/1/2008	1/5/2010	1"	Copper	
2239 Edgewood Dr	7/1/2008	1/11/2010	1"	Copper	
2244 Edgewood Dr	7/1/2008	1/11/2010	1"	Copper	
2458 Wilder Rd	9/1/2004	1/13/2010	1"	Copper	
2340 Half Moon Way	6/30/1999	1/16/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	1/19/2010	1"	Copper	
2342 Brookfield Dr	6/6/1996	1/19/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	1/19/2010	1"	Copper	
2443 Wilder Rd	9/1/2004	1/20/2010	1"	Copper	
2440 Wilder Rd	9/1/2004	1/20/2010	1"	Copper	
2700 Avienda Grande	7/1/1985	1/20/2010	1"	Copper	
Canyon/ Edgewood	2/6/2001	1/28/2010	1"	Copper	
329 Meander Dr	7/1/1967	1/29/2010	1"	Copper	
2466 Highland Trl	9/1/2004	2/3/2010	1"	Copper	
2610 Sanctuary Dr	12/12/2004	2/3/2010	1"	Copper	
2730 Miracle Mile Rd	6/1/1986	2/5/2010	1"	Copper	
399 Primrose Dr		2/8/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	2/9/2010	1"	Copper	
2620 Miracle Mile Rd	6/1/1986	2/9/2010	1"	Copper	
2335 Shooting Star Dr	2/6/2001	2/11/2010	1"	Copper	
2580 Miracle Mile Rd	6/1/1986	2/23/2010	1"	Copper	
2460 Miracle Mile Rd	6/1/1986	2/24/2010	1"	Copper	
2428 Wilder Rd	9/1/2004	3/1/2010	1"	Copper	
2366 Bluebird Ln	8/31/2000	3/2/2010	1"	Copper	
2318 Silverthorne Dr	5/30/2006	3/5/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	3/11/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	3/11/2010	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2350 Adobe Rd	11/1/2003	3/11/2010	1"	Copper	IRRIG
2350 Adobe Rd	11/1/2003	3/11/2010	1"	Copper	IRRIG #2
2589 Highland Trl	2/3/2000	3/18/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	3/19/2010	1"	Copper	
Hillview & Parkway	11/27/1986	3/29/2010	2"	Copper	
2135 Riviera Blvd	7/1/1967	3/31/2010	1"	Copper	
2137 Colorado Blvd	7/1/1967	4/1/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	4/8/2010	1"	Copper	
2885 Winchester Rd	5/9/1996	4/9/2010	1"	Copper	
2465 Frontier Dr	9/1/2004	4/18/2010	1"	Copper	
2442 Sabino Dr	9/1/2004	4/20/2010	1"	Copper	
2584 Majestic Way	1/22/2001	4/28/2010	1"	Copper	
2244 Starflower Trl	9/24/1998	4/29/2010	1"	Copper	
3088 Sienna Dr	7/1/2008	4/30/2010	1"	Copper	
255 Majestic Way	1/22/2001	5/4/2010	1"	Copper	
586 Stahlman Dr	4/10/1974	5/13/2010	1"	Copper	
2656 Discovery Rd	6/3/2005	5/16/2010	1"	Copper	
2289 Shooting Star Dr	2/6/2001	5/19/2010	1"	Copper	
2624 Avienda Grande	7/1/1985	5/19/2010	1"	Copper	
2276 Silverthorne Dr	12/16/2003	5/21/2010	1"	Copper	
2708 Discovery Rd	5/8/2007	5/22/2010	1"	Copper	
2330 Silverthorne Dr	5/30/2006	5/24/2010	1"	Copper	
2690 Hillview Dr	11/27/1986	5/24/2010	1"	Copper	
1110 Copper Ln	7/1/1982	5/28/2010	3/4"	Copper	
3021 Milano Dr	7/1/2008	5/28/2010	1"	Copper	
2306 Silverthorne Dr	12/16/2003	6/1/2010	1"	Copper	
2433 Highland Trl	9/1/2004	6/2/2010	1"	Copper	
3113 Sienna Dr	7/1/2008	6/2/2010	1"	Copper	
3005 Sienna Dr	7/1/2008	6/2/2010	1"	Copper	
1916 Orca Ln	7/1/1967	6/3/2010	3/4"	Copper	
3052 Sienna Dr	7/1/2008	6/4/2010	1"	Copper	
2389 Juneberry Cir	8/31/2000	6/4/2010	1"	Copper	
2250 Edgewood Dr	7/1/2008	6/5/2010	1"	Copper	
2750 Springtime Ct	6/3/2005	6/8/2010	1"	Copper	
2627 Rolling Hills Rd	6/3/2005	6/10/2010	1"	Copper	
2530 Corona Redondo	7/1/1985	6/11/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	6/12/2010	1"	Copper	
2450 Topanga Dr	7/1/2008	6/15/2010	1"	Copper	
1180 Pawnee Dr	7/1/1972	6/16/2010	1"	Copper	
1085 Chapparral Dr	7/2/1971	6/17/2010	1"	Copper	
3000 Milano Dr	7/1/2008	6/18/2010	1"	Copper	
2557 Sundown Cir	2/3/2000	6/21/2010	1"	Copper	
2428 Topanga Dr	7/1/2008	6/22/2010	1"	Copper	
3018 Milano Dr	7/1/2008	6/22/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	6/23/2010	1"	Copper	
2389 Soaring Eagle Dr		6/23/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	6/24/2010	1"	Copper	
927 Hancock Rd	4/28/1972	6/30/2010	1"	Copper	
1725 El Cazador	7/1/1985	6/30/2010	1"	Copper	
2663 Avienda Grande	7/1/1985	7/1/2010	1"	Copper	
2345 Ryan Way	3/31/1997	7/3/2010	1"	Copper	
2862 Cresthill Dr	9/15/1990	7/7/2010	1"	Copper	
2567 Sundown Cir	2/3/2000	7/10/2010	1"	Copper	
875 Hancock Rd	12/5/1973	7/13/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/13/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/13/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/13/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/14/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/14/2010	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2350 Adobe Rd	11/1/2003	7/15/2010	1"	Copper	
3041 Sienna Dr	7/1/2008	7/15/2010	1"	Copper	
2442 Topanga Dr	7/1/2008	7/16/2010	1"	Copper	
3060 Milano Dr	7/1/2008	7/16/2010	1"	Copper	
2548 Majestic Way	1/22/2001	7/17/2010	1"	Copper	
2631 Discovery Rd	6/3/2005	7/17/2010	1"	Copper	
1618 GoldRush Rd	7/1/1994	7/18/2010	2"	Poly/ J-M	
2552 Fox Run Ln	5/9/1996	7/20/2010	1"	Copper	
578 Terrace Rd	4/10/1974	7/21/2010	1"	Copper	
2417 Topanga Dr	7/1/2008	7/22/2010	1"	Copper	
2615 Sanctuary Dr	12/12/2004	7/28/2010	1"	Copper	
2889 Country Hills Rd	9/15/1990	7/29/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/30/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	7/31/2010	1"	Copper	
2901 Huntington	5/9/1996	8/2/2010	1"	Copper	
2664 Edgewater Dr	12/12/2004	8/2/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	8/4/2010	1"	Copper	
2534 Bridlewise Ln	5/9/1996	8/5/2010	1"	Copper	
2238 Sunrise Trl	9/24/1998	8/6/2010	1"	Copper	
2444 Topanga Dr	7/1/2008	8/7/2010	1"	Copper	
2447 Topanga Dr	7/1/2008	8/9/2010	1"	Copper	
522 Riverfront Dr	4/10/1974	8/12/2010	1"	Copper	
2992 Ranch House Rd	7/1/2008	8/13/2010	1"	Copper	
2635 Discovery Rd	6/3/2005	8/19/2010	1"	Copper	
2886 Winchester Rd	5/9/1996	8/19/2010	3/4"	Copper	
2281 Soaring Eagle Dr	12/16/2003	8/29/2010	1"	Copper	
2420 Bluebird Ln	5/19/2000	8/29/2010	1"	Copper	
1021 Mobile Ln	7/1/1955	8/30/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	8/31/2010	1"	Copper	
2523 Sundown Cir	2/3/2000	9/1/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	9/6/2010	1"	Copper	
2427 Sabino Dr	9/1/2004	9/8/2010	1"	Copper	
544 Palo Verde Ave	4/10/1974	9/9/2010	1"	Copper	
1096 Jocabima Dr	4/28/1972	9/15/2010	1"	PVC	
2576 Majestic Way	1/22/2001	9/16/2010	1"	Copper	
2011 Rio Grande Rd	7/1/1967	9/18/2010	3/4"	Copper	
1301 Riverfront Dr	6/23/1968	9/21/2010	1"	Copper	
2298 Silverthorne Dr	12/16/2003	9/23/2010	1"	Copper	
2601 Paloma Senda Dr	7/1/1985	9/28/2010	1"	Copper	
2701 Rolling Hills Rd		9/29/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	9/30/2010	1"	Copper	
2906 Winchester Rd	5/9/1996	10/1/2010	1"	Copper	
2966 Camino Del Rio	5/9/1980	10/4/2010	1"	Copper	
2597 Highland Trl	2/3/2000	10/6/2010	1"	Copper	
2977 Carefree Dr	4/15/2003	10/6/2010	1"	Copper	
2443 Topanga Dr	7/1/2008	10/7/2010	1"	Copper	
2367 Columbus Dr	4/15/2003	10/7/2010	1"	Copper	
2335 Brookfield Dr	6/6/1996	10/8/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	10/11/2010	1"	Copper	
2435 Topanga Dr	7/1/2008	10/11/2010	1"	Copper	
2556 Highland Trl	2/3/2000	10/17/2010	1"	Copper	
170 Lee Ave	7/1/1970	10/23/2010	1"	Copper	
2557 Bridlewise Ln	5/9/1996	10/30/2010	1"	Copper	
2558 Bridlewise Ln	5/9/1996	10/30/2010	1"	Copper	
2840 Ventura Dr		11/2/2010	1"	Copper	
2424 Topanga Dr	7/1/2008	11/9/2010	1"	Copper	
2693 Sanctuary Dr	12/12/2004	11/10/2010	1"	Copper	
2350 Adobe Rd	11/1/2003	11/10/2010	1"	Copper	
2451 Topanga Dr	7/1/2008	11/15/2010	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2359 Columbus Dr	4/15/2003	11/18/2010	1"	Copper	
2862 Hillview Dr	11/27/1986	11/22/2010	1"	Copper	
2286 Silverthorne Dr	12/16/2003	11/27/2010	1"	Copper	
2576 Fox Run Ln	5/9/1996	12/3/2010	1"	Copper	
2532 Majestic Way	1/22/2001	12/20/2010	1"	Copper	
2449 Juneberry Cir	12/10/1996	12/28/2010	1"	Copper	
2226 Edgewood Dr	7/1/2008	12/28/2010	1"	Copper	
2395 Columbus Dr	4/15/2003	12/29/2010	1"	Copper	
2861 Grandhill Rd	9/15/1990	12/30/2010	1"	Copper	
1944 Merced Dr	7/1/1967	12/31/2010	3/4"	J-M	
1825 East Shores	7/1/1979	1/4/2011	1"	Copper	
3053 Sienna Dr	7/1/2008	1/8/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	1/9/2011	1"	Copper	
1666 Rio Vista Dr	9/3/1971	1/10/2011	1"	Copper	
1039 Roadrunner Dr	7/1/1955	1/11/2011	1"	Copper	
2514 Highland Trl	2/3/2000	1/17/2011	1"	Copper	
2853 Winchester Rd	5/9/1996	1/18/2011	1"	Copper	
1599 Camino Ct	5/9/1980	1/19/2011	1"	Copper	
2606 Sanctuary Dr	12/12/2004	1/25/2011	1"	Copper	
2849 Mourning Dove	6/6/1996	1/25/2011	1"	Copper	
2634 Sanctuary Dr	12/12/2004	1/28/2011	1"	Copper	
2598 Montano Ridge	10/11/2007	2/1/2011	1"	Copper	
2463 Topanga Dr	7/1/2008	2/2/2011	1"	Copper	
2341 Brookfield Ln	6/6/1996	2/2/2011	1"	Copper	
2449 Wilder Rd	9/1/2004	2/7/2011	1"	Copper	
2546 Sundown Cir	2/3/2000	2/9/2011	1"	Copper	
2547 Sundown Cir	2/3/2000	2/9/2011	1'	Copper	
1740 El Cazador	7/1/1985	2/11/2011	1"	Copper	
2430 Highway 95		2/14/2011	1"	Copper	
2678 Sanctuary Dr	12/12/2004	2/15/2011	1"	Copper	
2510 Whispering Ridge Dr	3/31/1997	2/21/2011	1"	Copper	
2347 Shooting Star Dr	2/6/2001	3/14/2011	1"	Copper	
2251 Merrill Ave	7/1/1982	3/14/2011	1"	Copper	
2567 Sonoran Desert Rd	5/8/2007	3/24/2011	1"	Copper	
2725 Hillview Dr	11/27/1986	3/24/2011	1"	Copper	
2901 Winchester Rd	5/9/1996	3/28/2011	1"	Copper	
2443 Juneberry Cir	12/10/1996	3/29/2011	1"	Copper	
562 Roadrunner Dr	4/10/1974	3/30/2011	1"	Copper	
567 Roadrunner Dr	4/10/1974	3/30/2011	1"	II	
1945 Merced Dr	7/1/1967	3/30/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	4/6/2011	1"	Copper	
2811 Amberwood Ave	8/31/2000	4/6/2011	1"	Copper	
1707 El Cazador	7/1/1985	4/8/2011	1"	Copper	
1884 El Monte Dr	7/1/1967	4/11/2011	1"	Pvc	
2759 Camino Del Rio	5/9/1980	4/11/2011	1"	Copper	
2759 Camino Del Rio	5/9/1980	4/11/2011	1"	II	
2600 Paloma Senda Dr	7/1/1985	4/13/2011	1"	Copper	
1095 Jocabima Dr	4/28/1972	5/9/2011	1"	Copper	
1096 Jocabima Dr	4/28/1972	5/9/2011	1"	Copper	
2415 Topanga Dr	7/1/2008	5/11/2011	1"	Copper	
2322 Shooting Star Dr	2/6/2001	5/11/2011	1"	Copper	
2552 Sonoran Desert Rd	5/8/2007	5/13/2011	1"	Copper	
2549 Joshua Tree	5/8/2007	5/15/2011	1"	Copper	
2407 Topanga Dr	7/1/2008	5/17/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	5/17/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	5/17/2011	1"	Copper	
2771 Avienda Grande	7/1/1985	5/17/2011	1"	Copper	
2431 Topanga Dr	7/1/2008	5/19/2011	1"	Copper	
1450 Marina Parkway	4/28/1972	5/24/2011	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2738 Springtime Ct	6/3/2005	5/26/2011	1"	Copper	
2423 Frontier Ln	9/1/2004	5/29/2011	1"	Copper	
1085 Chapparral Dr	7/2/1971	6/1/2011	1"	Copper	
3035 Sienna Dr	7/1/2008	6/8/2011	1"	Copper	
3090 Milano Dr	7/1/2008	6/10/2011	1"	Copper	
2451 Highland Trl	9/1/2004	6/10/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	6/10/2011	1"	Copper	
2447 Frontier Ln	9/1/2004	6/11/2011	1"	Copper	
2409 Topanga Dr	7/1/2008	6/15/2011	1"	Copper	
2533 Majestic Way	1/22/2001	6/16/2011	1"	Copper	
2305 Soaring Eagle Dr	5/8/2002	6/18/2011	1"	Copper	
2607 Rolling Hills Rd	6/3/2005	6/20/2011	1"	Copper	
2663 Paloma Senda Dr	7/1/1985	6/25/2011	1"	Copper	
1375 Willow Ln	7/1/1955	6/27/2011	1"	Copper	
2482 Sonoma Rd	7/1/2008	7/5/2011	1"	Copper	
2647 Lantana Dr	5/8/2007	7/6/2011	1"	Copper	
2300 Desert Forest Ln	5/30/2006	7/6/2011	1"	Copper	
2278 Starflower Trl	5/29/1997	7/8/2011	1"	Copper	
1365 Lincoln Ln	6/23/1968	7/15/2011	1"	Copper	
1051 Jocabima Dr	4/28/1972	7/19/2011	1"	Copper	
1379 Rubel Ln	6/23/1968	7/19/2011	1"	Copper	
2437 Topanga Dr	7/1/2008	7/23/2011	1"	Copper	
2313 Merrill Ave	7/1/1982	7/25/2011	1"	Copper	
3038 Sienna Dr	7/1/2008	7/26/2011	1"	Copper	
2037 Gregg Ln	7/1/1967	7/27/2011	1"	Pvc	
2350 Adobe Rd	11/1/2003	7/29/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	8/2/2011	1"	Copper	
2380 Northstar Rd	7/1/2008	8/4/2011	1"	Copper	
2702 Sanctuary Dr	6/3/2005	8/5/2011	1"	Copper	
2878 Grandhill Rd	9/15/1990	8/5/2011	1"	Copper	
2560 Joshua Tree	5/8/2007	8/5/2011	1"	Copper	
2290 Starflower Trl	6/6/1996	8/6/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	8/9/2011	1"	Copper	
2327 Silverthorne Dr	5/30/2006	8/9/2011	1"	Copper	
2485 Camino Del Rio	7/2/1971	8/11/2011	1"	Copper	
2639 Lantana Dr	5/8/2007	8/12/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	8/12/2011	1"	Copper	
417 Santa Maria Rd	7/1/1967	8/16/2011	1"	Copper	
1947 W Riverbend Cir	7/1/1967	8/16/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	8/16/2011	1"	Copper	
2270 Acoma Pl	7/1/1972	8/24/2011	1"	II	
2252 Acoma Pl	7/1/1972	8/24/2011	1"	Copper	
2030 Swan Cv	7/1/1967	8/25/2011	1 1/4"	PVC	
1939 Merced Dr	7/1/1967	8/30/2011	1"	Copper	
2439 Merrill Ave	7/1/1982	9/1/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	9/3/2011	1"	Copper	
1967 W Riverbend Cir	7/1/1967	9/10/2011	1"	Poly	
805 Hancock Rd	12/5/1973	9/14/2011	1"	Copper	
2441 Frontier Ln	9/1/2004	9/16/2011	1"	Copper	
1716 El Cazador	7/1/1985	9/17/2011	1"	Copper	
1424 Paradise Ln	7/1/1955	9/19/2011	1"	Copper	
626 Citrus St	4/10/1974	9/23/2011	1"	Copper	
627 Citrus St	4/10/1974	9/23/2011	1"	Copper	
2708 Discovery Rd	5/8/2007	10/5/2011	1"	Copper	
3015 Hwy 95	8/8/1994	10/6/2011	2"	Copper	
3015 Hwy 95	8/8/1994	10/6/2011	1"	Copper	
514 Church St	4/10/1974	10/7/2011	1"	Copper	
1197 Chippewa Dr	7/1/1972	10/12/2011	1"	Copper	
1192 Chippewa Dr	7/1/1972	10/12/2011	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2191 Kingston Ln	7/1/1967	10/19/2011	1"	Copper	
2508 Juneberry Cir	5/19/2000	10/19/2011	1"	Copper	
2503 Juneberry Cir	5/19/2000	10/19/2011	1"	Copper	
2654 Sanctuary Dr	12/12/2004	10/24/2011	1"	Copper	
2686 Sanctuary Dr	12/12/2004	10/26/2011	1"	Copper	
2463 Sabino Dr	9/1/2004	10/26/2011	1"	Copper	
2709 Calle De Meracdo	7/1/1985	10/31/2011	2"	Copper	
2350 Adobe Rd	11/1/2003	11/1/2011	1"	Copper	
2668 Paloma Senda Dr	7/1/1985	11/3/2011	1"	Copper	
877 Hancock Rd	12/5/1973	11/7/2011	1"	Copper	
897 Surf Spray Dr	1/26/1987	11/9/2011	1"	Copper	
937 San Juan Dr	7/1/1967	11/11/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	11/14/2011	1"	Copper	
2647 Sanctuary Dr	12/12/2004	11/16/2011	1"	Copper	
2350 Adobe Rd	11/1/2003	12/2/2011	1"	Copper	
2875 Cresthill Dr	9/15/1990	12/5/2011	1"	Copper	
2855 Dakota Trl	6/6/1996	12/5/2011	1"	Copper	
3073 Sienna Dr	7/1/2008	12/7/2011	1"	Copper	
1089 Copper Dr	7/1/1982	12/12/2011	1"	Copper	
2581 Fox Run Ln	5/9/1996	12/15/2011	1"	Copper	
3003 Hwy 95	2/10/1986	12/16/2011	1"	Copper	
2515 Whispering Ridge Dr	3/31/1997	12/21/2011	1"	Copper	
2997 Coyote Run	6/30/1999	12/22/2011	3/4'	Copper	
William Hardy/ LR Blvd		1/1/2012	2"	Copper	
2851 Cresthill Dr	9/15/1990	1/4/2012	1"	Copper	
1905 Riverside Dr	7/1/1967	1/10/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	1/15/2012	1"	Copper	
2592 Highland trl	2/3/2000	1/23/2012	1"	Copper	
2558 Sundown Cir	2/3/2000	1/23/2012	1"	Copper	
454 Riverfront Dr	7/1/1980	1/24/2012	1" x 7	Copper	
2643 Lantana Dr	5/8/2007	1/26/2012	1"	Copper	
2611 Discovery Rd	12/12/2004	1/31/2012	1"	Copper	
2060 Sweetwater Ave	7/1/1967	2/1/2012	3/4"	Copper	
2670 Sanctury Dr	12/12/2004	2/9/2012	1"	Copper	
1899 Coral Isle Dr	7/1/1959	2/11/2012	1"	PVC	
594 Silver Ln	7/1/1967	2/14/2012	3/4"	Brass	
2476 Highland trl	2/3/2000	2/15/2012	1"	Copper	
619 Citrus St	4/10/1974	2/15/2012	1"	Copper	
2499 Highland trl	2/3/2000	2/16/2012	1"	Copper	
2258 Sunrise Trl	9/24/1998	2/21/2012	1"	Copper	
2380 Columbus Dr	4/15/2003	2/21/2012	1"	Copper	
924 Hancock Rd	7/1/1959	3/5/2012	1"	Copper	
2505 Majestic Way	1/22/2001	3/7/2012	1"	Copper	
2673 Sanctury Dr	12/12/2004	3/14/2012	1"	Copper	
1336 Newberry Dr	7/1/1960	3/15/2012	1"	Copper	
1062 Mobile Ln	7/1/1955	3/21/2012	1"	Copper	
1480 Marina Prky Dr	7/1/1955	3/21/2012	1"	Copper	
2471 Sabino Dr	9/1/2004	3/30/2012	1"	Copper	
2582 Joshua Tree	5/8/2007	4/3/2012	1"	Copper	Irr
2082 Del Rey Dr	7/1/1967	4/4/2012	3/4"	Copper	
2548 Valley Vista Dr	7/1/1985	4/9/2012	1"	Copper	
2220 Edgewood Dr	7/1/2008	4/10/2012	1"	Copper	
2407 Merrill Ave	7/1/1982	4/11/2012	1"	Copper	
2332 Half Moon Way	6/30/1999	4/13/2012	1"	Copper	
1922 Merced Dr	7/1/1967	4/27/2012	1"	Copper	
2592 Majestic Way	1/22/2001	4/28/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	5/1/2012	1"	Copper	
2380 Juneberry Cir	8/31/2000	5/3/2012	1"	Copper	
1181 Chippewa Dr	7/1/1972	5/7/2012	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
1971 Capistrano Ln	7/1/1967	5/10/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	5/11/2012	1"	Copper	
2425 Topanga Dr	7/1/2008	5/12/2012	1"	Copper	
216 Tanglewood Ln	7/1/1967	5/14/2012	3/4"	Copper	
2039 Rio Grande RD	7/1/1967	5/15/2012	3/4"	Copper	
2354 Half Moon Way	6/30/1999	5/16/2012	1"	Copper	
1917 Casleberry LN	7/1/1967	5/21/2012	1"	Copper	
1899 Riverside Dr	7/1/1967	5/21/2012	3/4"	Copper	
2350 Adobe Rd	11/1/2003	5/22/2012	1"	Copper	
Maintenance Yard		5/22/2012	2"	Copper	
2483 Paseo Cisne	7/2/1971	5/23/2012	1"	Copper	
Laughlin Ranch/Parkway	4/19/2005	5/23/2012	2"	Copper	
2271 Starflower Trl	5/29/1997	5/30/2012	1"	Copper	
2285 Desert Forest Ln	5/30/2006	6/5/2012	1"	Copper	
3005 Carefree Dr	7/1/2008	6/6/2012	1"	Copper	
1618 GoldRush Rd	7/1/1994	6/6/2012	1"	Copper	
598 Roadrunner Dr	4/10/1974	6/8/2012	1"	Copper	
2022 Merrill Ln	7/1/1982	6/13/2012	1"	Copper	Clubhouse
2591 Avenida Grande	7/1/1985	6/13/2012	1"	Copper	
599 Holly St	4/10/1974	6/13/2012	1"	Copper	
2857 Grandhill Rd	9/15/1990	6/13/2012	1"	Copper	
1966 W Riverbend Cir	7/1/1967	6/19/2012	1"	Copper	
2316 Ryan Way	3/31/1997	6/27/2012	1"	Copper	
1959 Riverbend Cir W	7/1/1967	6/28/2012	1"	Copper	
2434 Topanga Dr	7/1/2008	6/29/2012	1"	Copper	
2269 Sunrise Trl	9/24/1998	6/30/2012	1"	Copper	
2600 Paloma Senda Dr	7/1/1985	7/2/2012	1"	Copper	
1618 GoldRush Rd	7/1/1994	7/2/2012	2"	Copper	
2600 Avineda Grande	7/1/1985	7/3/2012	1"	Copper	
2893 Huntington	5/9/1996	7/3/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	7/6/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	7/6/2012	1"	Copper	
2325 Soaring Eagle Dr	5/8/2002	7/9/2012	1"	Copper	
2564 Majestic Way	1/22/2001	7/10/2012	1"	Copper	
2256 Kiabab Dr	7/1/1972	7/19/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	7/21/2012	1"	Copper	
534 Terace Rd	4/10/1974	7/23/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	7/25/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	7/27/2012	1"	Copper	
1479 Bryan Dr	6/23/1968	7/30/2012	1"	Copper	
2545 Corona Redonda	7/1/1985	7/31/2012	1"	Copper	
2438 Highland trl	9/1/2004	8/2/2012	1"	Copper	
1355 Ramar Rd		8/6/2012	11/2"	PVC	
3160 Hwy		8/7/2012	1"	Light blue Poly	
2635 Calle de Mercado	7/1/1985	8/9/2012	1"	Copper	
2364 Acoma Pl	7/1/1972	8/14/2012	1"	Copper	
2364 Acoma Pl	7/1/1972	8/14/2012	1"	Copper	
1115 Jocabima Dr	4/28/1972	8/16/2012	1"	Copper	
1110 Jocabima Dr	4/28/1972	8/16/2012	1"	Copper	
2824 Camino Del Rio	5/9/1980	8/17/2012	1"	Copper	
1381 Paradise Ln	7/1/1955	8/20/2012	1"	Copper	
454 Riverfront Dr	7/1/1980	8/21/2012	1"	Copper	
2358 Taos Dr	7/1/1972	8/22/2012	1"	Copper	
1298 Country Club Cir	1/2/1972	8/23/2012	1"	Copper	
2862 Grandhill Rd	9/15/1990	8/25/2012	1"	Copper	
2460 Topanga Dr	7/1/2008	8/26/2012	1	Copper	
2292 Ryan Way	3/31/1997	8/27/2012	1"	Copper	
2350 Adobe #229	11/1/2003	8/27/2012	1"	Copper	
2515 Sundown Cir	2/3/2000	8/29/2012	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
1079 Jocabima Dr	4/28/1972	9/5/2012	1"	Copper	
1080 Jocabima Dr	4/28/1972	9/5/2012	1"	Copper	
1026 Jocabima Dr	4/28/1972	9/5/2012	1"	Copper	
1033 Jocabima Dr	4/28/1972	9/6/2012	1"	Copper	
2311 Brookfield Ln	6/6/1996	9/7/2012	1"	Copper	
1794 Tejon Dr	7/1/1959	9/8/2012	3/4"	Copper	
317 Anna Cir	7/1/1980	9/8/2012	1"	Copper	
2403 Castle Rock Cir	7/1/1967	9/11/2012	3/4"	Copper	
2404 Casitle Rock Cir	7/1/1967	9/11/2012	3/4"	Copper	
2510 Country Club Cir	1/2/1972	9/13/2012	1"	Copper	
521 Roadrunner Dr	4/10/1974	9/17/2012	1"	Copper	
2623 Discovery Rd	12/12/2004	9/19/2012	1"	Copper	
2375 Seminole Dr	7/1/1972	9/20/2012	1"	Copper	
1717 El Cazador	7/1/1985	9/26/2012	1"	Copper	
2784 Paloma Senda Dr	7/1/1985	9/26/2012	1"	Copper	
584 Palo Verde Ave	4/10/1974	9/28/2012	1"	Copper	
2517 Fox Creek		10/1/2012	1"	Copper	
825 Gemstone Ave	12/5/1973	10/2/2012	1"	Copper	
825 Gemstone Ave	12/5/1973	10/2/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	10/4/2012	1"	Copper	
2484 Sonoma Rd	7/1/2008	10/12/2012	1"	Copper	
411 Riverfront Dr	7/1/1980	10/12/2012	1"	Copper	
569 Citrus St	4/10/1974	10/13/2012	1"	Copper	
570 Citrus St	4/10/1974	10/13/2012	1"	Copper	
283 Marina Blvd	7/1/1967	10/14/2012	3/4"	Copper	
2350 Adobe Rd	11/1/2003	10/16/2012	1"	Copper	
2292 Desert Forest Ln	5/30/2006	10/16/2012	1"	Copper	
2301 Desert Forest Ln	5/30/2006	10/17/2012	1"	Copper	
1938 Orca Ln	7/1/1967	10/22/2012	3/4"	Copper	
860 Gemstone Ave	12/5/1973	10/31/2012	1"	Copper	
2328 Soaring Eagle Dr	5/8/2002	11/10/2012	1"	Copper	
1375 Ramar Rd		11/13/2012	1"	Copper	
2419 Juneberry Cir	12/10/1996	12/11/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	12/12/2012	1"	Copper	
2787 Avineda Grande	7/1/1985	12/17/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	12/20/2012	1"	Copper	
2350 Adobe Rd	11/1/2003	12/20/2012	2"	Brass plug	
2293 Desert Forest Ln	5/30/2006	1/5/2013	1"	Copper	
2973 Carefree Dr	4/15/2003	1/8/2013	1"	Copper	
2350 Adobe Rd	11/1/2003	1/11/2013	1"	Copper	
2512 Fox Run Ln	5/9/1996	1/22/2013	1"	Copper	
1221 Riverfront Dr	5/7/1969	1/25/2013	1"	Copper	
2499 Sundown Cir	2/3/2000	2/1/2013	1"	Copper	
3066 Milano Dr	7/1/2008	2/11/2013	1"	Copper	
Adobe & Topanga	7/1/2008	2/11/2013	1"	Copper	
2464 Topanga Dr	7/1/2008	2/12/2013	1"	Copper	
2458 Topanga Dr	7/1/2008	2/12/2013	1"	Copper	
2459 Topanga Dr	7/1/2008	2/12/2013	1"	Copper	
2454 Topanga Dr	7/1/2008	2/13/2013	1"	Copper	
2432 Topanga Dr	7/1/2008	2/13/2013	1"	Copper	
2401 Topanga Dr	7/1/2008	2/13/2013	1"	Copper	
2401 Topanga Dr	7/1/2008	2/13/2013	1"	Copper	
2511 Highland Trl	2/3/2000	2/14/2013	1"	Copper	
2523 Highland Trl	2/3/2000	2/14/2013	1"	Copper	
2549 Highland Trl	2/3/2000	2/15/2013	1"	Copper	
2532 Highland Trl	2/3/2000	2/15/2013	1"	Copper	
2535 Highland Trl	2/3/2000	2/15/2013	1"	Copper	
2544 Highland Trl	2/3/2000	2/18/2013	1"	Copper	
2568 Highland Trl	2/3/2000	2/18/2013	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2581 Highland Trl	2/3/2000	2/18/2013	1"	Copper	
2598 Highland Trl	2/3/2000	2/20/2013	1"	Abandon	
2599 Highland Trl	2/3/2000	2/20/2013	1"	Abandon	
2532 Sundown Cir	2/3/2000	2/25/2013	1"	Copper	
2535 Sundown Cir	2/3/2000	2/25/2013	1"	Copper	
2496 Sundown Cir	2/3/2000	2/26/2013	1"	Copper	
2554 Sundown Cir	2/3/2000	2/26/2013	1"	Copper	
2508 Sundown Cir	2/3/2000	2/26/2013	1"	Copper	
2553 Sundown Cir	2/3/2000	2/26/2013	1"	Copper	
2531 Sundown Cir	2/3/2000	2/27/2013	1"	Copper	
1705 Gemstone #2	12/5/1973	2/27/2013	1"	Copper	
2517 Fox Run Ln	5/9/1996	2/28/2013	1"	Copper	
2541 Fox Run Ln	5/9/1996	3/1/2013	1"	Copper	
2633 Paloma Senda	7/1/1985	3/4/2013	1"	Copper	
2560 Fox Run Ln	5/9/1996	3/4/2013	1"	Copper	
2504 Fox Run Ln	5/9/1996	3/4/2013	1"	Copper	
2861 Hunnington Ln	5/9/1996	3/4/2013	1"	Copper	
2573 Fox Run Ln	5/9/1996	3/4/2013	1"	Copper	
2868 Hunnington Ln	5/9/1996	3/4/2013	1"	Copper	
2884 Hunnington Ln	5/9/1996	3/5/2013	1"	Copper	
2892 Hunnington Ln	5/9/1996	3/5/2013	1"	Copper	
2541 Bridlewise Ln	5/9/1996	3/5/2013	1"	Copper	
2533 Bridlewise Ln	5/9/1996	3/5/2013	1"	Copper	
2542 Bridlewise Ln	5/9/1996	3/5/2013	1"	Copper	
2558 Fox Ridge ln	5/9/1996	3/7/2013	1"	Copper	
2542 Fox Ridge ln	5/9/1996	3/7/2013	1"	Copper	
2557 Fox Ridge ln	5/9/1996	3/7/2013	1"	Copper	
1820 Cypress Ln	7/1/1967	3/7/2013	1"	Copper	
231 Moser Ave	12/1/2004	3/7/2013	1"	Copper	Irr
283 Moser Ave	12/1/2004	3/7/2013	1"	Copper	
2869 Hunnington Ln	5/9/1996	3/11/2013	1"	Copper	
2916 Hunnington Ln	5/9/1996	3/11/2013	1"	Copper	
2056 Colorado Rd	7/1/1967	3/12/2013	1"	Copper	
2852 Hunnington Ln	5/9/1996	3/12/2013	1"	Copper	
2507 Whispering Ridge Dr	3/31/1997	3/14/2013	1"	Copper	
2511 Whispering Ridge Dr	3/31/1997	3/14/2013	1"	Copper	
2518 Whispering Ridge Dr	3/31/1997	3/14/2013	1"	Copper	
2514 Whispering Ridge Dr	3/31/1997	3/14/2013	1"	Copper	
2549 Whispering Ridge Dr	3/31/1997	3/14/2013	1"	Copper	
2565 Whispering Ridge Dr	3/31/1997	3/14/2013	1"	Copper	
2520 Whispering Ridge Dr	3/31/1997	3/15/2013	1"	Copper	
1837 Rivera Blvd	1/26/1987	3/18/2013	1"	Copper	
2572 Whispering Ridge Dr	3/31/1997	3/19/2013	1"	Copper	
2566 Whispering Ridge Dr	3/31/1997	3/19/2013	1"	Copper	
2308 Ryan Way	3/31/1997	3/20/2013	1"	Copper	
2520 Majestic Way	1/22/2001	3/20/2013	1"	Copper	
2521 Majestic Way	1/22/2001	3/20/2013	1"	Copper	
2581 Majestic Way	1/22/2001	3/20/2013	2"	Copper	
Irr Whispering Ridge/Woods	3/31/1997	3/20/2013	1"	Copper	
2529 Majestic Way	1/22/2001	3/21/2013	1"	Copper	
2528 Majestic Way	1/22/2001	3/21/2013	1"	Copper	
2588 Majestic Way	1/22/2001	3/21/2013	2"	Copper	blow off
2588 Majestic Way	1/22/2001	3/21/2013	1"	Copper	
424 Anna Cir	7/1/1980	3/25/2013	1"	Copper	
2513 Majestic Way	1/22/2001	3/25/2013	1"	Copper	
2579 Majestic Way	1/22/2001	3/25/2013	1"	Copper	
2587 Majestic Way	1/22/2001	3/26/2013	1"	Copper	
2668 Lantana Dr	5/8/2007	3/28/2013	1"	Copper	
2745 Sanctuary Dr	5/8/2007	3/28/2013	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2737 Sanctuary Dr	5/8/2007	3/28/2013	1"	Copper	
2733 Sanctuary Dr	5/8/2007	3/29/2013	1"	Copper	
2897 Rolling Hills Dr		3/29/2013	1"	Copper	
2554 Joshua Tree	5/8/2007	4/1/2013	1"	Copper	
2566 Joshua Tree	5/8/2007	4/1/2013	1"	Copper	
2574 Joshua Tree	5/8/2007	4/1/2013	1"	Copper	
2664 Lantana Dr	5/8/2007	4/1/2013	1"	Copper	
2582 Joshua Tree	5/8/2007	4/1/2013	1"	Copper	
2734 Sanctuary Dr	5/8/2007	4/1/2013	1"	Copper	
2730 Sanctuary Dr	5/8/2007	4/2/2013	1"	Copper	
2667 Lantana Dr	5/8/2007	4/2/2013	1"	Copper	
2586 Joshua Tree	5/8/2007	4/3/2013	1"	Copper	
2740 Sanctuary Dr	5/8/2007	4/3/2013	1"	Copper	
2746 Sanctuary Dr	5/8/2007	4/4/2013	1"	Copper	
2659 Lantana Dr	5/8/2007	4/5/2013	1"	Copper	
2651 Lantana Dr	5/8/2007	4/5/2013	1"	Copper	
2570 Sonoran Desert Rd	5/8/2007	4/8/2013	1"	Copper	
2564 Sonoran Desert Rd	5/8/2007	4/8/2013	1"	Copper	
2555 Sonoran Desert Rd	5/8/2007	4/8/2013	1"	Copper	
2551 Sonoran Desert Rd	5/8/2007	4/8/2013	1"	Copper	
2702 Discovery Rd	5/8/2007	4/9/2013	1"	Copper	
2721 Discovery Rd	5/8/2007	4/9/2013	1"	Copper	
2392 Sonoran Desert Rd		4/9/2013	1"	Copper	
Laredo & Sanctuary Dr	12/12/2004	4/10/2013	2"	Copper	
2709 Discovery Rd	5/8/2007	4/11/2013	1"	Copper	
2614 Sonoran Desert Rd	5/8/2007	4/11/2013	1"	Copper	
2713 Discovery Rd	5/8/2007	4/11/2013	1"	Copper	
2600 Sonoran Desert Rd	5/8/2007	4/11/2013	1"	Copper	
2705 Discovery Rd	5/8/2007	4/12/2013	1"	Copper	
2579 Sonoran Desert Rd	5/8/2007	4/12/2013	1"	Copper	
2575 Sonoran Desert Rd	5/8/2007	4/12/2013	1"	Copper	
2646 Discovery Rd	6/3/2005	4/15/2013	1"	Copper	
2628 Discovery Rd	12/12/2004	4/15/2013	1"	Copper	
2647 Edgewater Dr	12/12/2004	4/15/2013	1"	Copper	
2589 Sonoran Desert Rd	5/8/2007	4/16/2013	1"	Copper	
2593 Sonoran Desert Rd	5/8/2007	4/16/2013	1"	Copper	
2776 Broadmoor Dr	12/12/2004	4/17/2013	1"	Copper	
2642 Sanctuary Dr	12/12/2004	4/18/2013	1"	Copper	
2780 Broadmoor Dr	12/12/2004	4/19/2013	1"	Copper	
2617 Sonoran Desert Rd	5/8/2007	4/19/2013	1"	Copper	
2601 Sonoran Desert Rd	5/8/2007	4/19/2013	1"	Copper	
2613 Sonoran Desert Rd	5/8/2007	4/19/2013	1"	Copper	
2711 Sanctuary Dr	6/3/2005	4/19/2013	1"	Copper	
2675 Broadmoor Dr	12/12/2004	4/19/2013	1"	Copper	
2710 Sanctuary Dr	6/3/2005	4/22/2013	1"	Copper	
2665 Sanctuary Dr	12/12/2004	4/22/2013	1"	Copper	
2718 Sanctuary Dr	5/8/2007	4/22/2013	1"	Copper	
2656 Edgewater Dr	12/12/2004	4/23/2013	1"	Copper	
2710 Discovery Rd	5/8/2007	4/23/2013	1"	Copper	
2714 Discovery Rd	5/8/2007	4/23/2013	1"	Copper	
2690 Sanctuary Dr	6/3/2005	4/23/2013	1"	Copper	
2714 Sanctuary Dr	6/3/2005	4/23/2013	1"	Copper	
2636 Edgewater Dr	12/12/2004	4/24/2013	1"	Copper	
2648 Edgewater Dr	12/12/2004	4/24/2013	1"	Copper	
2622 Sanctuary Dr	12/12/2004	4/25/2013	1"	Copper	
2668 Edgewater Dr	12/12/2004	4/25/2013	1"	Copper	
2625 Discovery Rd	6/3/2005	4/26/2013	1"	Copper	
2611 Discovery Rd	12/12/2004	4/26/2013	1"	Copper	
1618 Goldrush Rd	7/1/1994	4/29/2013	2"	Copper	

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ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2706 Sanctuary Dr	6/3/2005	4/29/2013	2"	Copper	
2350 Adobe Rd	11/1/2003	4/30/2013	1"	Copper	west entrance
2423 Frontier Ln	9/1/2004	4/30/2013	2"	Copper	
2425 Wilder Rd	9/1/2004	5/1/2013	1"	Copper	
2422 Highland Trl	9/1/2004	5/3/2013	1"	Copper	
1559 Paige Dr	4/10/1974	5/4/2013	1"	Copper	
2422 Highland Trl	9/1/2004	5/6/2013	2"	Copper	
2455 Sabino Dr	9/1/2004	5/7/2013	1"	Copper	
2350 Adobe Rd	11/1/2003	5/7/2013	1"	Copper	
2426 Sabino Dr	9/1/2004	5/8/2013	1"	Copper	
Desert Sky & Canyon	2/24/1992	5/8/2013	1"	Copper	
Laredo & Highland trl	11/5/1990	5/8/2013	1"	Copper	
2350 Adobe Rd	11/1/2003	5/9/2013	1"	Copper	
Adobe & Desert Sky	11/20/1997	5/9/2013	1"	Copper	
Desert Sky		5/9/2013	1"	Copper	
1984 Colorado Blvd	7/1/1967	5/10/2013	3/4"	Copper	
2440 Adobe Rd	11/20/1997	5/10/2013	2"	Copper	Irr
2875 Desert Sky Blvd	5/9/1996	5/10/2013	2"	Copper	
2943 Desert Sky Blvd	5/9/1996	5/14/2013	2"	Copper	
1559 Paige Dr	4/10/1974	5/14/2013	1"	Copper	
2440 Adobe Rd	11/20/1997	5/15/2013	2"	Copper	
2425 Adobe Rd	11/20/1997	5/15/2013	2"	Copper	
2425 Adobe Rd	11/20/1997	5/15/2013	1"	Copper	Irr
2415 Stardust Dr	5/17/2003	5/15/2013	1"	Copper	
2397 Stardust Dr	5/17/2003	5/16/2013	1"	Copper	
2403 Stardust Dr	5/17/2003	5/16/2013	1"	Copper	
2418 Juneberry cir	12/10/1996	5/16/2013	1"	Copper	
2430 Juneberry cir	12/10/1996	5/16/2013	1"	Copper	
1941 Robson Cir	7/1/1967	5/17/2013	1"	Copper	
2379 Stardust Dr	5/17/2003	5/17/2013	1"	Copper	
2442 Juneberry cir	12/10/1996	5/17/2013	1"	Copper	
2454 Juneberry cir	12/10/1996	5/17/2013	1"	Copper	
2466 Juneberry cir	12/10/1996	5/20/2013	1"	Copper	
2491 Juneberry cir	12/10/1996	5/20/2013	1"	Copper	
2406 Juneberry cir	8/31/2000	5/20/2013	1"	Copper	
2490 Juneberry cir	12/10/1996	5/28/2013	1"	Copper	
2496 Juneberry cir	12/10/1996	5/28/2013	1"	Copper	
2472 Juneberry cir	12/10/1996	5/29/2013	1"	Copper	
2341 Halfmoon Way	6/30/1999	5/31/2013	1"	Copper	
2398 Juneberry cir	8/31/2000	6/3/2013	1"	Copper	
2425 Bluebird Ln	5/19/2000	6/4/2013	1"	Copper	
2740 Paloma Senda	7/1/1985	6/4/2013	1"	Copper	
1476 Summit Ln	3/2/1971	6/7/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	6/7/2013	2"	Copper	
2022 Merrill Ln	7/1/1982	6/10/2013	2"	Copper	
354 Meander Dr	7/1/1967	6/10/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	6/11/2013	2"	Copper	
2655 Paloma Senda	7/1/1985	6/11/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	6/12/2013	2"	Copper	
2022 Merrill Ln	7/1/1982	6/12/2013	2"	Copper	
2353 Taos Dr	7/1/1972	6/16/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	6/17/2013	2"	Copper	
1120 Papago Dr	7/1/1972	6/18/2013	1"	Copper	
1130 Cibecue Dr	7/1/1972	6/20/2013	1"	Copper	
2340 Ryan Way	3/31/1997	6/21/2013	1"	Copper	
2337 Ryan Way	3/31/1997	6/21/2013	1"	Copper	
Calle de Mercado&Carona	7/1/1985	6/22/2013	1"	off	
1012 Merrill CT	7/1/1982	6/23/2013	1"	Copper	
2805 Dakota Trl	3/31/1997	6/25/2013	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
333 Anna Cir	7/1/1980	6/25/2013	1"	Copper	
2350 Adobe Rd	11/1/2003	6/26/2013	1"	Copper	
2725 Calle de Mercado	7/1/1985	6/27/2013	2"	Copper	
2350 Adobe Rd	11/1/2003	6/28/2013	1"	Copper	
2330 Stetson Cir		6/28/2013	1"	Copper	
Highland Schools service		7/2/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	7/3/2013	1"	Copper	
2343 MorningSide Dr	3/31/1997	7/5/2013	1"	Copper	
2346 MorningSide Dr	3/31/1997	7/5/2013	1"	Copper	
2344 Ryan Way	3/31/1997	7/5/2013	1"	Copper	
2324 Ryan Way	3/31/1997	7/5/2013	1"	Copper	
2809 Dakota Trl	3/31/1997	7/5/2013	1"	Copper	
2350 Adobe Rd	11/1/2003	7/6/2013	1"	Copper	
2348 Soaring Eagle Dr	5/8/2002	7/6/2013	1"	Copper	
2368 Juneberry cir	8/31/2000	7/7/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	7/8/2013	2"	Copper	
1144 Cibecue Dr	7/1/1972	7/9/2013	1"	Copper	
1139 Peartree Ln	7/1/1972	7/10/2013	1"	Copper	
2359 MorningSide Dr	3/31/1997	7/10/2013	1"	Copper	
2363 MorningSide Dr	3/31/1997	7/10/2013	1"	Copper	
2350 Ryan Way	3/31/1997	7/11/2013	1"	Copper	
2365 Ryan Way		7/11/2013	1"	Copper	
2288 Ryan Way	3/31/1997	7/12/2013	1"	Copper	
2300 Ryan Way	3/31/1997	7/12/2013	1"	Copper	
2338 Morning Side	3/31/1997	7/12/2013	1"	Copper	
2355 Morning Side	3/31/1997	7/12/2013	1"	Copper	
2350 Adobe Rd	11/1/2003	7/13/2013	1"	Copper	
2592 Avineda Grande	7/1/1985	7/16/2013	1"	Copper	
594 Riverview Dr	7/1/1967	7/17/2013	1"	Copper	
2022 Merrill Ln	7/1/1982	7/17/2013	1"	Copper	garages
2659 Avineda Grande	7/1/1985	7/17/2013	1"	Copper	
2304 Ryan Way	3/31/1997	7/19/2013	2"	Copper	Blow off
2392 Merrill Ln	7/1/1982	7/23/2013	1"	Copper	
453 Riverfront Dr	7/1/1980	7/23/2013	1"	Copper	
2692 Avineda Grande	7/1/1985	7/24/2013	1"	Copper	
2280 Merrill Ln	7/1/1982	7/24/2013	1"	Copper	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
Marina Pky & Joshua Ln	7/1/1955	5/4/2003	2"	Galv	Abandon svc Line
1441 Horseshoe LN	7/1/1960	11/10/2003	1"		Leak at 90'
1208 Paseo Del Mar	7/1/1972	11/25/2003	1"		Leak at saddle
1417 Verde Dr	5/7/1969	11/26/2003	1"		Leak at svc tee
2985 Camino Del Rio	5/9/1980	12/5/2003	3/4"		Break at nipple
577 Malibu Bay	7/1/1967	12/16/2003	1"		Break At Tee
2804 Colibri Ct	7/1/1985	1/5/2004	1"	poly(dris)	Clamp
1895 Arena Dr	9/3/1971	1/5/2004	1"	pvc	Saddle,Pvc
2350 Half Moon Way	6/30/1999	1/6/2004	1"	poly(dris)	Clamp
2059 Sweetwater Dr	7/1/1967	1/7/2004	1"	Copper	Saddle, Vanguard
803 Glen DR	2/5/1973	1/11/2004	3/4"	pvc	Nipple, Valve
2979 Camino Del Rio	5/9/1980	1/13/2004	1"	pvc	Saddle, PVC
1145 Hancock Rd	2/21/1966	1/21/2004	1"	pvc	Compression Couplings,Pvc
1145 Hancock Rd	2/21/1966	1/21/2004	1"	pvc	Redo Compression Coupling
1385 Zircon Ave	7/6/1982	1/21/2004	1"	Gray abs	Clamp
1161 Hancock Rd	2/21/1966	1/22/2004	1"	pvc	Compression coupling,Pvc
1169 Hancock Rd	2/21/1966	1/22/2004	1"	Gray abs	Compression coupling,Pvc
559 Palo Verde	4/10/1974	1/24/2004		Saddle	Replaced Saddle, Dris
1180 Agate Ave	2/21/1966	1/27/2004	1"		Tighten Compression Coupling
1180 Agate Ave	2/21/1966	1/27/2004	1"		Tighten Compression Coupling
2053 Whitewater Dr	7/1/1967	1/29/2004	1"	Copper	Spliced, Vanguard
2866 Cresthill DR	9/15/1990	2/2/2004	1"	Poly	Clamp
336 Santa Maria Rd	7/1/1967	2/3/2004	1"	copper	spliced with Driscope
1730 Palma RD	6/7/1966	2/4/2004	1"	Poly	----------
1675 Highland Rd	2/21/1966	2/5/2004	1"	Gray ABS	Flow Lock,valve,Pvc
1675 Highland Rd	2/21/1966	2/5/2004	1"	Gray Abs	Sames as above
1655 Highland RD	2/21/1966	2/9/2004	1"	Gray abs	Compression coupling,Pvc
1359 Palma Plaza	1/19/1966	2/9/2004	1"	Gray Abs	Compression coupling,Pvc
1643 Highland RD	2/21/1966	2/10/2004	1"	Gray abs	Compression coupling,Pvc
811 Riverfront Dr	2/5/1973	2/14/2004		saddle	Saddle, Tied back in ,,,Pvc
1617 Yale Dr	3/17/1975	2/15/2004		Blown meter	Replaced meter ,Gaskets
2625 Avenida Grande	7/1/1985	2/16/2004	1"	poly	Clamp
2903 Country Club Dr	5/9/1980	2/16/2004	1"	pvc sch 40	Saddle, PVC
1353 Palma Pl	1/19/1966	2/18/2004	1"	Gray abs	Compression coupling,Pvc
1529 Lincoln Bay	1/19/1966	2/18/2004	1"	Gray abs	Compression coupling,Pvc
2124 Santa Cruz Ave	7/1/1967	2/19/2004	3/4"	copper	3/4" Vanguard
1365 Palma Pl	1/19/1966	2/20/2004	1"	Gray abs	Compression coupling,Pvc
White water		2/20/2004	1"	copper	Compression coupling,Pvc
2094 Santa Cruz Ave	7/1/1967	2/23/2004	3/4"	Copper	Compression coupling,3/4 Vanguard
1347 Zircon Ave	7/6/1982	2/24/2004	1"	Gray abs	Compression coupling,Pvc
900,902 Baseline Rd	12/29/1980	2/24/2004	1"	Copper	Compression coupling,Driscope
1629 & 1639 Shamrock RD	7/6/1982	2/25/2004	1"	Gray abs	Clamp
2340 Half moon way	6/30/1999	2/27/2004	1"	Poly (dris)	clamp
2100 Colorado Blvd	7/1/1967	3/1/2004	3/4"	Copper	Compression Coupling,3/4 Vang
1629 Shamrock Rd	7/6/1982	3/2/2004	1"	Gray abs	Compression Coupling, Pvc
1763 El cazador	7/1/1985	3/3/2004	1"	Poly (dris)	Clamp
2606 Camino Del Rio	12/31/1967	3/5/2004	1 1/2"	Gate Valve	
851 Ramar Rd	2/5/1973	3/8/2004	1"	SVC Tee	Replaced tee ,put svc Back
2050 Whitewater Dr	7/1/1967	3/9/2004	2"	PVC	Compression coupl,,Pvc
1109 Sahuaro Dr	7/1/1955	3/10/2004	3/4"	Galv	Replaced Svc Line
2941 Camino Del Rio	5/9/1980	3/11/2004	3/4"	Nipple	3" Nipple
902 Brill DR	12/29/1980	3/11/2004	1"	Copper	Rerounded Copper
1350,1366 Agate Dr	6/7/1966	3/16/2004	1"	Gray abs	Compression Coupling,PVC
2706 Avenida Grande	7/1/1985	3/17/2004	1"	Poly (dris)	Clamp

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
985 Roadrunner Dr	4/28/1972	3/20/2004	1"	Gray Abs	Flow lock/Valve/Rebuilt Tee/
1725 Corona Vista	7/1/1985	3/22/2004	1"	poly(dris)	Clamp
1471 Church Dr	5/7/1969	3/29/2004	1"	Gray abs	Replaced tee ,put svc Back
1340 Cedar LN		3/29/2004	1"	Galv	Abandon Svc Line
2069 Colorado Blvd	7/1/1967	3/30/2004	1"	pvc	Replaced tee ,put svc Back
1047 Holly St	10/31/1968	3/30/2004		Blown Mater	Replaced meter ,Gaskets
969 Riverview CV	7/1/1967	4/5/2004	1"	Plastic	Replaced svc tee to hook up New meter
2866 Cresthill DR	9/15/1990	4/6/2004	1"	Poly (dris)	Clamp
1369 Willow Ln	7/1/1955	4/7/2004	1"	Galv	Replaced Svc Line
1447 Verano Pl	10/28/1975	4/7/2004	1"	Sch 40	Sch 40 Pvc new Svc Tee
2345 Half moon wy	6/30/1999	4/7/2004	1"	Poly (dris)	Clamp
2874 Cresthill DR	9/15/1990	4/7/2004	1"	Poly (dris)	Clamp
2141 Del Rey Dr	7/1/1967	4/9/2004	1"	Sch 40	
2055 Tesota Way		4/9/2004	1"	Poly (dris)	Clamp
1414 Lause Rd	5/9/1980	4/10/2004	1"	SVC Tee	Replaced tee ,put svc Back
592 Citrus St	4/10/1974	4/11/2004	3/4"	Nipple	Replaced nipple put svc back
1955 Robson Cir W	7/1/1967	4/12/2004	3/4"	Nipple	Replaced Nipple
2140 Del Rey Dr	7/1/1967	4/14/2004		Blown meter	Replaced meter ,Gaskets
360 Church St	7/1/1980	4/14/2004		Blown meter	Replaced meter ,Gaskets
3030 Camino Del Rio	7/30/1992	4/15/2004		Brass Branch	Replaced SVC Branch
1474 Summit LN	4/14/1968	4/15/2004	3/4"	poly	Clamp
2422 Rio DR	7/1/1970	4/15/2004		Glued saddle	Replaced Saddle
2960 Silver Creek Rd		4/18/2004	3/4"	Nipple	Replaced Nipple and valve
1325 Ramar Rd	4/14/1968	4/19/2004	1"	Gray abs	Abandon svc line at break
1498 Riverfront Dr	6/23/1968	4/19/2004		Gray Abs tee	Removed Gauge on svc line
1366 & 1374 Arcadia Dr	10/28/1975	4/19/2004	1"	Tee	Replaced tee ,put svc Back
Colorado&Sacramento	7/1/1967	4/20/2004	3/4"	Copper	3/4" sch 40 PVC
1099 & 1105 Jocabima Dr	4/28/1972	4/21/2004	1"	Poly (dris)	1" Dris
2066 Colorado Blvd	7/1/1967	4/21/2004	3/4"	Copper	3/4" Vanguard Ploy
2878 Hillview Dr	11/27/1986	4/22/2004	1"	Poly (dris)	Clamp
571 Riviera Blvd	7/1/1967	4/27/2004	3/4"	Poly (dris)	Removed Svc line Turned Corp off
1000 Mobile LN	7/1/1955	4/30/2004	3/4"	Nipple	Replaced nipple and valve
1918 Diamond Dr	7/1/1967	5/3/2004	1"	ABS	1" Sch 40
1444 Dorado Way	3/2/1971	5/4/2004	3/4"	Nipple	Replaced Nipple and valve
2135 Hwy 95	6/1/1986	5/4/2004	1"	Poly Vanguard	Vanguard
1093 Calle Bonita	7/2/1971	5/4/2004	1"	Plastic	Installed Valve
2593 Highland TRL	2/3/2000	5/4/2004	1"	Poly Driscope	Vanguard
2705 Paloma Senda	7/1/1985	5/10/2004	1"	Poly Driscope	Clamp
2101 Hwy 95	6/1/1986	5/11/2004	1"	Poly Vanguard	tied back together
1247 Riverfront Dr	5/7/1969	5/12/2004	3/4"	Nipple	Nipple ,Valve
1624 Shamrock Rd	7/6/1982	5/12/2004		Gray Abs tee	Replaced tee put svc Back
1764 Dorado DR	10/28/1975	5/14/2004	3/4"	Nipple	Replaced tee,valves
1619 Corona Vista Dr	7/1/1985	5/15/2004	1"	Poly (dris)	Replaced Portion put svc back
676 Citrus St	3/17/1975	5/17/2004	3/4"	Nipple	Replaced tee ,Valves
2159 Del Rey Dr	7/1/1967	5/20/2004	3/4"	Nipple	Rebuilt and Raised meter valve
Marina Prky& Mobile Ln	7/1/1955	5/24/2004	2"	Galv	Abandon 2" Line
545 Ramar Rd	4/10/1974	5/27/2004	1"	Cts	Clamp
2891 Cresthill Dr	9/15/1990	5/27/2004	1"	Poly Driscope	Abandon SVC Line Not in use
1887 Clearwater Dr	7/1/1967	5/27/2004	1"	Pvc	Compression Coupling
1352 Riverfront Dr	6/23/1968	5/27/2004	3/4"	Nipple	Replaced Valve and nipple
2110 Buccaneer Dr	7/1/1967	6/1/2004	1"	Poly Driscope	Clamp

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
3015 Camino Del Rio	5/9/1980	6/2/2004	1"	sch 40	Replaced section of pipe
1086 Mobile Ln	7/1/1955	6/3/2004	1"	Galv	Vanguard
1095 Copper Ln	7/1/1982	6/3/2004	3/4"	Poly (dris)	Replaced section of pipe
3000 Camino Del Rio	7/30/1992	6/3/2004	1"	Poly Driscope	replaced Brass branch
184 Lee St	7/1/1970	6/3/2004	1"	Poly Driscope	Clamp
2350 Adobe Rd	11/1/2003	6/6/2004	2"	Poly (Dris)	Clamp
800 Church St	2/5/1973	6/8/2004	1"	Plastic Tee	Replaced Tee and Valves
2293 Merrill Ave	7/1/1982	6/9/2004	3/4"	Poly (dris)	Replaced section of 3/4"
2779 Paloma Senda	7/1/1985	6/10/2004	1"	Poly (dris)	Clamp
1725 Corona Vista	7/1/1985	6/11/2004	1"	Poly (dris)	spliced with Vanguard
1793 Coronado Cove	7/1/1959	6/12/2004	3/4"	nipple	Replaced nipple and valve
2097 Hermosa Dr	7/1/1967	6/12/2004	3/4"	abs	clamp
635 Primrose Ln	12/13/1977	6/14/2004	3/4"	Meter Riser	replaced meter riser
2146 Rio Grande	7/1/1967	6/16/2004	3/4"	Copper	Replaced saddle
2358 Half moon way	6/30/1999	6/17/2004	1"	Poly Driscope	clamp
1775 Riverside DR	7/1/1967	6/18/2004		Saddle	Replaced Saddle
310 Nevada Dr	7/1/1967	6/18/2004	3/4"	Poly (dris)	Clamp
2897 Rollings Hills		6/20/2004	3/4"	Poly (dris)	Clamp
1086 Baseline Rd	8/22/1967	6/21/2004	3/4"	abs	Spliced back together
1905 Merced Dr	7/1/1967	6/22/2004	1"		clamp
2405 Castle Rock Cir	7/1/1967	6/23/2004	3/4"	Tuff tube	Clamp
2564 Country Club dr	5/6/1969	6/24/2004	1"	Plastic	Replace tee
2851 Cresthill DR	9/15/1990	6/26/2004	1"	Poly Driscope	Vanguard, Tied back in
446 Lee St	7/1/1970	6/27/2004	1"	Poly Driscope	Vanguard , Tied back in
2270 E Riverview Cir	7/1/1972	6/27/2004		Meter Gasket	Meter Gasket
2879 Cresthill DR	9/15/1990	6/27/2004	1"	Poly Driscope	Clamp
2350 Half moon way	6/30/1999	6/28/2004	1"	poly	Clamp
2850 Cresthill DR	9/15/1990	6/28/2004	1"	Poly	1" Poly
Silver creek		6/28/2004	2"	sch 40	replaced 90' Ball valve Meter
1925 Arena Dr	10/28/1975	6/29/2004	1"	Pvc	Rebuilt tee
851 Riverfront Dr	2/5/1973	6/30/2004	1"	tee	Replaced tee
2438 Merrill ave	7/1/1982	7/3/2004	1"	Poly Driscope	1" & 3/4"Clamp
2358 Half Moon Way	6/30/1999	7/7/2004	1"	Poly Driscope	1" Vanguard Brass fitting
1782 Rio Grande Rd	7/1/1967	7/12/2004		Saddle	Replaced saddle, Corp
2500 Valley Vista	7/1/1985	7/14/2004	1"	Poly Driscope	1" Vanguard tied back in
2119 Santa Cruz Ave	7/1/1967	7/14/2004	3/4"	poly	Clamp
2879 Cresthill DR	9/15/1990	7/14/2004	1"	Poly Driscope	Clamp
2959 Country Club Dr	7/30/1992	7/16/2004	1"	Poly Driscope	Replaced Svc Branch
2712 Country Club Dr	7/1/1972	7/16/2004	1"	ABS	Rebuilt svc tee
281 Moser Ave	12/1/2004	7/19/2004	1"	Copper	Clamp ,Saddle,tied back together
1033 Citrus St	10/31/1968	7/20/2004	1"	ABS	Spliced back together
1919 Castle Berry Ln	7/1/1967	7/20/2004	1"	Poly Driscope	Clamp
429 Riverfront Dr	7/1/1980	7/21/2004	3/4"	Nipple	Replaced nipple
1755 El Cazador	7/1/1985	7/21/2004	1"	Poly Driscope	
2542 Valley Vista	7/1/1985	7/22/2004	1"	Poly Driscope	Clamp
2350 Miracle mile Rd	5/11/1989	7/24/2004	2"	Driscope	sectioned back together
1009 Hwy 95	7/1/1970	7/25/2004	3/4"	Copper	replaced stub off tee
1582 Trane RD	1/19/1966	7/26/2004	1"	Abs	Replaced small section
Lazy Harrys	7/1/1967	7/26/2004	1 1/2"	PVC	Svc came off of whitewater
653 Mead Ln	7/1/1967	7/27/2004	3/4"	Nipple	Replaced svc
311 Nevada Dr	7/1/1967	7/27/2004	3/4"	SVC	Clamp
1670 Aracada Blvd	9/3/1971	7/27/2004	3/4"	Nipple	replaced nipple
2889 Country Hills RD	9/15/1990	7/30/2004	1"	Poly Driscope	sectioned with Vanguard
1637 Corona Vista	7/1/1985	8/1/2004	1"	Poly Driscope	sectioned with Vanguard

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
567 Rivera Blvd	7/1/1967	8/3/2004		Glued Saddle	New saddle tied back in
184 Lee St	7/1/1970	8/3/2004	1"	Poly Driscope	sectioned back together
1081 Citrus St	10/31/1968	8/3/2004	1"	ABS	Sectioned with Vanguard
2259 Merrill Ave	7/1/1982	8/4/2004	3/4"	Poly (dris)	replaced section off of tee
1770 Arriba Dr		8/4/2004	2"	sch 40	Sectiond back together
2350 Half moon way	6/30/1999	8/5/2004	1"	Poly Driscope	Clamp
1435 Summit Cir	4/14/1968	8/9/2004	3/4"	Nipple	Nipple valve
1763 El cazador	7/1/1985	8/9/2004	1"	Poly Driscope	Spliced back together
1765 Hualapai Dr	7/1/1967	8/17/2004	1"	Abs	Clamp
2368 Juneberry Cir	8/31/2000	8/17/2004	1"	Poly Driscope	Clamp
935 Church St	4/28/1972	8/17/2004	1"	Plastic	Replaced svc Tee
1668 Rio Vista Dr	9/3/1971	8/19/2004	1"	Poly Driscope	Clamp
2332 Half Moon Way	6/30/1999	8/23/2004	1"	Poly Driscope	Clamp
2500 Valley Vista	7/1/1985	8/25/2004	1"	Poly Driscope	Clamp
1919 Castle Berry Ln	7/1/1967	8/25/2004	1"	poly	Clamp
242 Willowood Ln	7/1/1967	8/26/2004	3/4"	PVC	Clamp
577 Malibu Bay	7/1/1967	8/26/2004	1 1/4"		Replaced svc tee
1605 Camino Ct	5/9/1980	8/26/2004	1"	sch 40	Replaced 90'
2251 Merrill Ln	7/1/1982	8/28/2004	3/4"	Poly (dris)	clamp
2712 Country Club Dr	7/1/1972	8/30/2004	3/4"	PVC	Replaced 90'
415 Anna Cir	7/1/1980	8/30/2004	3/4"	Driscope	2 Clamps
1711 Toro Dr	9/3/1971	8/31/2004	1"	Svc tee	Replaced tee
2724 Paloma Senda	7/1/1985	9/3/2004	1"	Poly Driscope	Clamp
1022 Riverfront/Terrace	7/1/1955	9/5/2004	1"	pvc tee	Replaced tee
1466 Mirada Dr	5/7/1969	9/5/2004	3/4"	Nipple	Brokes nipple
1497 Arena Ct	10/28/1975	9/5/2004	1"	Tee	Replaced tee and valves
1604 Emerald Dr	1/19/1966	9/7/2004	3/4"	Nipple	Replaced nipple and valve
935 captains Cove	7/1/1967	9/7/2004	1"	Abs	Clamp
552 Ramar Rd	4/10/1974	9/7/2004	1"	Poly Driscope	Clamp
2368 Juneberry Cir	8/31/2000	9/10/2004	1"	Poly Driscope	Clamp
2620 Miracle Mile Rd	6/1/1986	9/10/2004	1"	Poly Driscope	Clamp
2700 Paloma Senda	7/1/1985	9/13/2004	1"	Poly Driscope	Clamp
360 Harbor Pl	7/1/1967	9/13/2004	3/4"	Tuff tube	Clamp
859 Hancock Rd	12/5/1973	9/13/2004	1"	Driscope	Clamp
2438 Merrill ave	7/1/1982	9/13/2004	1"	Driscope	Replaced Tee and valves
1708 Shamrock Rd	6/1/1986	9/13/2004	1"	ABS	Flow Lock valve
2559 Sundown Cir	2/3/2000	9/14/2004	1"	Poly Driscope	Clamp
922 Brill Dr	12/29/1980	9/14/2004	3/4"	Meter Riser	Clamp
Ramar & Verde	5/7/1969	9/15/2004	1"	Abs	Sectioned with sch40
2671 Avenida Grande	7/1/1985	9/20/2004	1"	poly(dris)	Clamp
2407,2415 Merrill ave	7/1/1982	9/21/2004	3/4"	Poly (dris)	3/4" Vanguard from tee to valve
2341 Half moon way	6/30/1999	9/22/2004	1"	Driscope	Clamp
1092 Sahuaro Dr	7/1/1955	9/23/2004	3/4"	Nipple	Replaced nipple and valve
2878 Hillview Dr	11/27/1986	9/25/2004	1"	Driscope	Piece into corp/ With Vanguard
2894 Hillview DR	11/27/1986	9/26/2004	1"	Driscope	Piece into corp/ With Vanguard
595 Holly St	4/10/1974	9/27/2004	1"	CTS Poly	Sectioned with sch40
2860 Country Club Dr	5/9/1980	9/28/2004	3/4"	Nipple	Replaced Tee and Valves
2894 Hillview DR	11/27/1986	9/29/2004	1"	Driscope	Clamp
1285 Ramar PLZ	4/14/1968	9/29/2004	3/4"	Nipple	Replaced nipple and valve
1129 Avienda De La Goldrina	12/31/1967	9/30/2004	3/4"	Nipple	Replaced tee and valves
1056 Holly St	10/31/1968	10/1/2004	1"	Tee	Replaced Tee and valves
1601 & 1605 Villa Ln	10/31/1968	10/1/2004	1"	Plastic	Sectioned with Vanguard
2998 Coyote Run	2/6/2001	10/3/2004	1"	Driscope	sectioned with Vanguard

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1725 Hancock way	8/22/1967	10/7/2004	1"	Gray abs	Replaced section with sch40
350 Harbor Pl	7/1/1967	10/11/2004	3/4"	abs	Replaced section and ball valve
2159 Whitewater Dr	7/1/1967	10/11/2004	3/4"	Copper	Repiced Pack Joint
1617 Turquoise Rd		10/12/2004	3/4"	Nipple	Replaced nipple and valve
2067 Lakeside Dr	7/1/1967	10/13/2004	1"	abs	Replaced Reducer into saddle
1325 Ramar Plz	4/14/1968	10/14/2004	1"	abs	Flow lock & Valve
1668 Rio Vista Dr	9/3/1971	10/16/2004	1"	Driscope	Clamp
1088 Zircon Cir	8/22/1967	10/18/2004	1"	abs	Replaced section
1890 Del Norte Dr	7/1/1967	10/19/2004	3/4"	Nipple	Replaced Nipple and Valve
1081 Zircon Ave	8/22/1967	10/19/2004	1"	Gray abs	Sectioned with sch 40
444 Patillo Dr	7/1/1980	10/20/2004	3/4"	sch40	Replaced tee
2774 Cresthill Dr		10/20/2004	1"	Driscope	Clamp
1180 Baseline Rd	1/16/1968	10/22/2004	1"	Abs	Pipe come apart of old repair
1640 Balsa Rd	9/3/1971	10/22/2004	1"	pvc	Replaced section of pipe tee
2874 Cresthill DR	9/15/1990	10/22/2004	1"	Driscope	Clamp
1240 Baseline Rd	1/16/1968	10/25/2004	1"	abs	Replaced section of pipe
1521 Emerald Dr	1/19/1966	10/25/2004	1"	Tee	Replaced tee and valves
1088 Zircon cir	8/22/1967	10/25/2004	1"	abs	Replaced section of pipe
1082 Baseline Rd	8/22/1967	10/26/2004	1"	abs	Clamp
1090 Baseline Rd	8/22/1967	10/26/2004	1"	abs	Replaced section sch40
1325 Ramar Rd	4/14/1968	10/26/2004	2"	Sch 40	Replaced section
2068 Lause Bay	5/9/1980	10/26/2004	1"	Pvc	Replaced 90'
1111 Zircon Dr	8/22/1967	10/26/2004	1"	abs	Replaced section with sch40
1514 Gold Rush Rd	7/1/1994	10/26/2004	2"	Driscope	Replaced
500 Terrace Dr	4/10/1974	10/28/2004	3/4"	Nipple	Replaced nipple and valve
1058 Baseline Dr	8/22/1967	10/29/2004	1"	Abs	Replaced section with sch40
1086 Holly St	10/31/1968	11/3/2004	3/4"	Nipple	replaced nipple and valve
1902 Sea Breeze In	7/1/1959	11/5/2004	1"	abs	Clamp
885 San Juan Cir	7/1/1967	11/5/2004	3/4"	Nipple	replaced galv nipple
1546 Trane rd	1/19/1966	11/8/2004	1"	abs	replaced section
1093 & 1099 Gemstone Ave	8/22/1967	11/9/2004	1"	abs	replaced section
1336 Ramar Plz	4/14/1968	11/9/2004	1"	abs	Replaced saddle and some pipe
2891 Hillview Dr	11/27/1986	11/10/2004	1"	Driscope	Sectionad back together
1158 Zircon way	1/16/1968	11/11/2004	1"	abs`	Replaced section of pipe tee
1835 Artesia Dr	7/1/1967	11/13/2004	1"	pvc	sectioned back together
2868 Huntington Ln	5/9/1996	11/17/2004	1"	Driscope	Clamp
1038 & 1040 Paradise Dr	7/1/1955	11/18/2004	1"	pvc	Replaced tee
2864 Camino Del Rio	5/9/1980	11/19/2004	3/4"	Nipple	Replaced nipple and valve
1626 Emerald Dr	6/7/1966	11/19/2004	1"	abs	Replaced section of pipe
1644 Emerald Dr	6/7/1966	11/19/2004	1"	abs	Replaced section of pipe
1935 Arena Dr	10/28/1975	11/24/2004	1"	pvc	Replaced tee and valves
2040 Swan Cir	7/1/1967	11/29/2004	1 1/4"	ABS	Replaced servive Not saddle
1290 &1300 Quartz ave	6/7/1966	11/30/2004	1"	abs	Replaced section
1215 Agate Dr	2/21/1966	12/1/2004	1"	Abs	Replaced section
263 Meander Dr	7/1/1967	12/1/2004	3/4"	Nipple	Replaced nipple and valve
1516 Emerald Rd	1/19/1966	12/2/2004	1"	abs	Replaced section of pipe
1332 agate Dr	6/7/1966	12/2/2004	1"	abs	Replaced section of pipe
1320 Gemstone Dr	6/7/1966	12/2/2004	1"	abs	Replaced section of pipe
1079 Hancock Rd	8/22/1967	12/2/2004	1"	pvc	Replaced section of pipe
2147 Whitewater Dr	7/1/1967	12/6/2004	3/4"	Nipple	replaced nipple and valve
1536 Emerald Dr	1/19/1966	12/6/2004	1"	abs	Replaced section of pipe
1783 El monte Dr	7/1/1967	12/6/2004	3/4"	Nipple	Replaced nipple and valve
670 Roadrunner Dr	3/17/1975	12/8/2004	1"	pvc	Replaced tee and valves
2156 Oswood Ln	7/1/1967	12/9/2004	3/4"	Nipple	Replaced nipple and valve

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2402 Castle rock cir	7/1/1967	12/13/2004	3/4"	Tuff tube	Clamp
360 Harbor Pl	7/1/1967	12/13/2004	3/4"	Tuff tube	Tighten Clamp
714 Daisy Dr	7/1/1959	12/14/2004	1"	abs	Replaced section
1070 Paseo Redondo	7/1/1969	12/15/2004	3/4"	PVC	Replaced 90'
1312 Hummingbird Ln	7/1/1960	12/17/2004	1 1/2"	ABS	Flow lock and valve
877 Hancock Rd	12/5/1973	12/17/2004	3/4"	poly (dris)	Installed hose clamp
388 Harbor Dr	7/1/1967	12/18/2004	1"	pvc	Replaced section of pipe
1549 Monte Vista Dr	6/2/1970	12/18/2004	2"	PVC	replaced angle vale and 90'
1379 Rubel Ln	6/23/1968	12/23/2004	1"	Driscope	Clamp
1086 copper dr	7/1/1982	12/27/2004	3/4"	poly (dris)	clamp
2066 Hualapai Dr	7/1/1967	12/29/2004	3/4"	Nipple	Replaced nipple
1679 Rio Vista Dr	9/3/1971	12/30/2004	1"	Pvc tee	Replaced tee
635 Mead Ln	7/1/1967	1/1/2005	3/4"		installed Flow lock & Valve, Broke by customer
2509 Valley Vista	7/1/1985	1/3/2005	1"	Driscope	Turned off corp,to vacant lot will resch to replace
1214 Gemstone Ave	2/21/1966	1/4/2005	1"	Grey abs	Replaced tee and valves
2855 Cresthill dr	9/15/1990	1/5/2005	1"	Driscope	Replaced section
1420 Terrace Dr	6/23/1968	1/9/2005	3/4"	nipple	Replaced nipple and valve ran over by car
2755 Avenida Grande	7/1/1985	1/9/2005	1"	Driscope	Clamp
996 Roadrunner Dr	4/28/1972	1/9/2005	1"	nipple	Replaced tee and valaves
2913 Country Club Dr	5/9/1980	1/11/2005	1"	Adapter	Replaced tee and valves
2515 Valley Vista	7/1/1985	1/11/2005	1"	Driscope	Replaced section
1529 Taylor Rd	4/10/1974	1/14/2005	1"	Copper	Replaced tee and valves
1395 Hancock Cir	2/21/1968	1/20/2005	3/4"	Black abs	
1791 Riverside Dr	7/1/1967	1/21/2005	3/4"	nipple	Replaced nipple and valve
2114 Del Rey Dr	7/1/1967	1/26/2005	3/4"	Nipple	Replaced nipple and valve
1794 Rio Grande Rd	7/1/1967	1/26/2005	3/4"	Nipple	Replaced nipple valve
2061 Lause Bay	5/9/1980	1/26/2005	1"	90' Fitting	Replaced 90' nipple,valve
295 Moser Ave	12/1/2004	1/28/2005	1"	ABS	Replaced svc up to saddle
2113 Bermuda Dr	7/1/1967	1/28/2005	1"	abs	Replaced section
2897 Country Hills Rd	9/15/1990	1/31/2005	1"	Driscope	Clamp
2084 Coronado Dr	7/1/1967	2/9/2005	1"	Pvc	Replaced section and valve
537 Roadrunner Dr	4/10/1974	2/10/2005	3/4"	pvc	Replaced nipple and valve
2149 Rathke Dr	7/1/1967	2/11/2005	3/4"	PVC	Replaced Valve and nipple
2965 Camino Del Rio	5/9/1980	2/13/2005	1"	pvc	Replaced saddle and section of pipe
561 Malibu Cir North	7/1/1967	2/13/2005	3/4"	pvc	Replaced sectio and valve
2997 Camino Del Rio	5/9/1980	2/14/2005	3/4"	pvc	Replaced valve and nipple
1725 Hancock Way	8/22/1967	2/15/2005	1"	Grey abs	Retighten Compression Coupling
231 Moser Ave		2/16/2005	3/4"	Copper	Abandon svc line
1329 Ramar Plz	4/14/1968	2/20/2005	1"	Black abs	Abandon svc line
2387 Merrill Dr	7/1/1982	2/24/2005	1"		Replaced tee and valves
939 Captains Cove	7/1/1967	2/25/2005	3/4"	Pvc	Replaced 90' nipple,valve
996 marina Blvd	7/1/1967	2/25/2005	3/4"	Nipple	replaced nipple and valve
1792 Tejon Dr	7/1/1959	2/26/2005	3/4"	Driscope	Clamp
1600 Yale Dr	3/17/1975	2/28/2005	1"	Pvc	Replaced tee and valves
2896 cresthill dr	9/15/1990	2/28/2005	1"	Driscope	Clamp
510&537 Roadrunner Dr	4/10/1974	3/1/2005	3/4"	pvc	Replaced nipple and valves
2534 Fox Ridge Ln	5/9/1996	3/8/2005	3/4"	Driscope	Clamp
2584 Avenida Grande	7/1/1985	3/10/2005	1"	Driscope	Clamp
351 Rio Grande Ct	7/1/1967	3/10/2005	3/4"	nipple	
2341 Half Moon Way	6/30/1999	3/10/2005	1"	Driscope	Clamp
171 Palm Ave	7/1/1970	3/11/2005	1"	Copper	Clamp

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1448 Monte Vista Dr	3/2/1971	3/16/2005	3/4"	Copper	Replaced meter riser
2115 Colorado Blvd	7/1/1967	3/16/2005	1"	Copper	
688 Lilac Ln	12/13/1977	3/17/2005	3/4"	Driscope	Clamp
1438 Luna Ln	3/2/1971	3/21/2005	3/4"	nipple	Replaced nipple and valve
1153 Quartz Ave	2/21/1966	3/22/2005	3/4"	Pvc	
2169 Oswood Ln	7/1/1967	3/24/2005	1"	pvc	Replaced Ballvalve and nipple
1085 Chaparral Dr	7/2/1971	3/29/2005	3/4"	Driscope	Hose clamp
2584 Avenida Grande	7/1/1985	3/30/2005	1"	Driscope	Clamp
450 Stieger Dr	7/1/1967	3/30/2005	1"	abs	Replaced saddle and section of pipe
1777 Dorado Dr	10/28/1975	4/4/2005	1"	pvc	Replaced nipple and valve
1203 Linda Vista	12/31/1964	4/5/2005	11/2"	abs	
2078 Kingston Dr	7/1/1967	4/5/2005	1"	pvc	Replaced section
2127 Oswood Ln	7/1/1967	4/6/2005	3/4"	Nipple	Replaced nipple and valve
1717 Corona Vista	7/1/1985	4/6/2005	1"	Driscope	Replaced section
838 Baseline Rd	2/5/1973	4/7/2005	1"	Driscope	Clamp
1725 Corona Vista	7/1/1985	4/8/2005	1"	Driscope	Clamp
2877 Country Hills RD	9/15/1990	4/12/2005	1"	Driscope	Replaced section from corp
2600 Avenida Grande	7/1/1985	4/13/2005	1"	Driscope	Clamp
2889 Country Club Dr	5/9/1980	4/13/2005	1"	PVC	Replaced tee
2855 Cresthill Dr	9/15/1990	4/14/2005	1"	Driscope	Clamp
335 Riverwood Ln	7/1/1967	4/16/2005	3/4"	nipple	flow lock and valve
2787 Avenida Grande	7/1/1985	4/16/2005	1"	Driscope	Clamp
1085 Chaparral Dr	7/2/1971	4/18/2005	3/4"	Driscope	Replaceed section
2129 Rio Grande	7/1/1967	4/18/2005	3/4"	Copper	Replaced saddle and section of pipe
2076 Del Rey Dr	7/1/1967	4/18/2005	3/4"	pvc	replaced tee and valves
1055 Riverfront Dr	7/1/1955	4/19/2005	3/4"	abs	Misc fittings
595 Holly St	4/10/1974	4/22/2005	1"	Black cts	Clamp
2047 Hualapai Dr	7/1/1967	4/22/2005	1"	abc	Raised service
1483 Mirada Dr	5/7/1969	4/25/2005	1"	ABS	Replaced tee and valves
470 Riverfront Dr	7/1/1980	4/25/2005	3/4"	Driscope	Replaced tee and valves
470 Riverfront Dr	7/1/1980	4/25/2005	1"	Copper	Replaced tee and valves
351 Rio Grande Ct	7/1/1967	4/28/2005	1"	nipple	
2524 Via Arroyo	5/6/1969	4/29/2005	3/4"	nipple	Clamp
185 Palm Dr	7/1/1970	4/29/2005	1"	Bushing	Replaced brass bushing
2209 6th street		4/29/2005	3/4"	Driscope	Replaced section
1101 Copper Dr	7/1/1982	5/1/2005	3/4"	Driscope	Clamp
2846 Desert Vista Dr		5/2/2005	3/4"	Driscope	Clamp
2022 Merrill Ln	7/1/1982	5/5/2005	2"	pvc	Replaced 90'
1150 Camino Cove	5/9/1980	5/7/2005	1"	PVC	Replaced 90' and misc fittings broke by customer tree roots
2331 Half moon Way	6/30/1999	5/8/2005	1"	Driscope	Clamp
886 Palo Verde	4/28/1972	5/11/2005	1"	Pvc	Replaced tee and section
2898 Cresthill Dr	9/15/1990	5/15/2005	3/4"	Driscope	Clamp
2112 Santa Cruz Ave	7/1/1967	5/18/2005	3/4"	Tuff tube	Clamp
1857 Arcadia Cir W	10/28/1975	5/20/2005	1"	PVC	Pelaced misc Fittings
1677 Quartz Cir	8/15/1966	6/1/2005	1"	PVC	Replaced tee and valves
2335 Half moon way	6/30/1999	6/2/2005	1"	Driscope	Replaced Section Of Pipe
2995 Coyote run	6/30/1999	6/2/2005	1"	Driscope	Clamp
1990 W Riverbend Cir	7/1/1967	6/3/2005	1"	Poly	Clamp
1737 Corona Vista Dr	7/1/1985	6/5/2005	1"	Driscope	Replaced section of pipe
2348 Shooting star Dr	2/6/2001	6/6/2005	1"	Driscope	Clamp
2886 Hillview Dr	11/27/1986	6/7/2005	1"	Driscope	Replaced section
2877 Country Hills RD	9/15/1990	6/7/2005	1"	Driscope	Clamp
2717 Avenida Grande	7/1/1985	6/7/2005	1"	Driscope	Clamp

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1701 Hwy 95	7/1/1982	6/8/2005	3/4"	PVC	Installed flow lock and valve
865 Hancock Rd	2/5/1973	6/8/2005	1"	Driscope	Clamp
547 Terrace Dr	4/10/1974	6/11/2005	1"	Polyb	Replaced tee and valves
1321 Gemstone ave	6/7/1966	6/13/2005	3/4"	Mtr Coupling	Replaced meter and coupling
1016 Holly St	10/31/1968	6/13/2005	1"	PVC	Replaced tee and valves
1990 Riverbend Cir W	7/1/1967	6/13/2005	1"	Poly	Clamp
1366 Arcadia Blvd	10/28/1975	6/17/2005	1"	PVC	Reaplced tee and valves
1350 Agate Dr	6/7/1966	6/19/2005	1"	PVC	Relaces tee and valves
1727 Palma Dr	6/7/1966	6/19/2005	1"	Driscope	Isolated tee with corp
1389 Church Dr	5/7/1969	6/20/2005	3/4"	Mtr riser	Replaced mtr riser
444 Lee ave	7/1/1970	6/20/2005	1"	Driscope	Clamp
1221 Gemstoone ave	2/21/1966	6/22/2005	1"	pvc	Replaced valve and nipple
1495 Verde Dr	5/7/1969	6/23/2005	3/4"	Pvc	Replaced section
2402 Castle rock cir	7/1/1967	6/24/2005	3/4"	Tuff tube	Clamp
838 Baseline Rd	2/5/1973	6/24/2005	1"	Driscope	Clamp
Desert Vista Dr		6/27/2005	3/4"	Driscope	two Clamps
2319 Merrill Ave	7/1/1982	6/28/2005	3/4"	Driscope	Clamp
909 San Juan Dr	7/1/1967	6/28/2005	1"	pvc	Clamp
1735 Yale Dr	3/17/1975	6/29/2005	1"	Pvc	Replaced tee and valves
270 Moser ave	7/1/1970	6/30/2005	1"	Driscope	Clamp
2530 Corona Redondo	7/1/1985	7/1/2005	1"	Driscope	Clamp
1710 Rio Vista Dr	9/3/1971	7/3/2005	1"	Pvc	Replaced tee and valves
2851 Cresthill Dr	9/15/1990	7/4/2005	1"	Driscope	Clamp
358 Rio Grande Ct	7/1/1967	7/6/2005	1"	Pvc	Replaced tee and valves
2280 Merrill Dr	7/1/1982	7/6/2005	1"	Driscope	Clamp
3026 Camino Del Rio	7/30/1992	7/8/2005	1"	Driscope	Clamp
1870 Hualapai Dr	7/1/1967	7/10/2005	3/4"	Driscope	Replaced section
1069 Riverfront Dr	7/1/1955	7/11/2005	1"	Pvc	replaced 90' with Brass 90'
1549 Monte Vista Dr	6/2/1970	7/12/2005	2"	Pvc	Replaced 90'
2364 Quail Run	7/1/1960	7/12/2005	1"	PVC	Replaced tee and valves
1125 Zircon Ave	1/16/1968	7/12/2005	3/4"	Nipple	Reapleced nipple and valve
1644 Toro Dr	9/3/1971	7/13/2005	1"	Nipple	Replaced tee and valves
1078 Baseline Rd	8/22/1967	7/13/2005	3/4"	Nipple	Reaplced nipple and valve
2442 Bluebird Ln	5/19/2000	7/13/2005	1"	Driscope	Clamp
1336 Newberry Dr	7/1/1960	7/13/2005	1"	abs	replaced section of pipe
2867 Cresthill Dr	9/15/1990	7/13/2005	1"	Driscope	Clamp
2350 Adobe Rd	11/1/2003	7/15/2005	1"	Driscope	Clamp
2625 Paloma Senda	7/1/1985	7/17/2005	1"	Driscope	Clamp
2990 Coyote Run	6/30/1999	7/21/2005	1"	Driscope	Clamp
1114 Calle De Allegro	7/1/1969	7/22/2005	1"	pvc	Replaced 90' and ball valve
545 Terrace Dr	4/10/1974	7/24/2005	1"	Saddle	Replaced saddle and section of pipe
1171 Quartz ave	2/21/1966	7/25/2005	1"	pvc	replaced cracked male adaptor
2670 Via Arroyo	7/1/1972	7/26/2005	1"	Saddle	Replaced glued saddle and section of service line
2850 Cresthill Dr	9/15/1990	7/27/2005	1"	Driscope	Will sch to replace
2150 Oswood Ln	7/1/1967	8/1/2005	3/4"	pvc	Concrete company broke Nipple trying to pull locking pin
1613 Dean Ln	3/17/1975	8/9/2005	3/4"	Nippple	Replaced nipple and valve
859 Hancock Rd	12/5/1973	8/10/2005	1"	Driscope	Clamp
1943 Sea Breeze Ln	7/1/1959	8/10/2005	3/4"	Nipple	Nipple was broke by billy while changing out metere
1708 El Cazador	7/1/1985	8/11/2005	1"	Driscope	Clamp
199 Tanglewood Ln	7/1/1967	8/11/2005	3/4"	pvc	Replaced tee and valves
2889 Country Hills RD	9/15/1990	8/12/2005	1"	Driscope	Clamp

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
333 Sea Creek Dr	7/1/1967	8/15/2005	1"	pvc	Replaced saddle and section of pipe
1346 Church Dr	5/7/1969	8/15/2005	1"	pvc	Replaced tee and valves
2547 Sundown Cir	2/3/2000	8/15/2005	1"	Driscope	clamp
2547 Sundown Cir	2/3/2000	8/15/2005	1"	Driscope	Clamp
346 Rio Grande Ct	7/1/1967	8/16/2005	1"	Pvc	Replaced section with sch 40
2897 Rolling Hills		8/16/2005	3/4"	Driscope	2 X Clamps
965 Roadrunner Dr	4/28/1972	8/21/2005	1"	pvc	Replaced tee and valves
2372 Castle Rock Cri	7/1/1967	8/22/2005	3/4"	Tuff tube	Replaced section of serv and replaced tee
1804 Coronel DR	7/1/1959	8/22/2005	3/4"	PVC	replaced threaded coupling and valve
819 Gemstone Ave	12/5/1973	8/24/2005	1"	Driscope	Clamp
2491 Sundown Cir	2/3/2000	8/26/2005	1"	Driscope	Clamp
446 Lee Ave	7/1/1970	8/29/2005	1"	Driscope	Replaced section of pipe
2434 Rio Dr	7/1/1970	8/29/2005	1"	Abs	Replaced section of pipe
2301 Merrill Ave	7/1/1982	8/30/2005	3/4"	Driscope	Clamp
1260 Verano Dr	10/28/1975	8/31/2005	1"	Pvc	Replaced tee and valves
1927 Avalon Dr	7/1/1967	8/31/2005	1"	pvc	Replaced small section w/valves
2131 Whitewater Dr	7/1/1967	8/31/2005	3/4"	Tuff tube	Clamp
2281 Merrill Ave	7/1/1982	9/1/2005	3/4"	Driscope	Replaced small section w/valves
2871 Cresthill Dr	9/15/1990	9/4/2005	1"	Driscope	Replaced section
1787 Granada Dr	7/1/1967	9/5/2005	3/4"	PVC	Replaced nipple and valve
2878 Hillview Dr	11/27/1986	9/5/2005	1"	Driscope	Clamp
2182 Sutter way	5/23/1997	9/6/2005	2"	Driscope	Clamp
1285 Ramar PLZ	4/14/1968	9/7/2005	1"	pvc	Replaced tee and valves
1830 Corona Vista Dr	7/1/1985	9/7/2005	1"	Driscope	Clamp
696 Lilac Ln	12/13/1977	9/8/2005	1"	CTS	Replaced section
691 primrose Ln	12/13/1977	9/8/2005	1"	CTS	Fixed same time as Lilac
935 Church Dr	4/28/1972	9/8/2005	1"	Pvc	Replaced tee
1256 Lause Rd	5/9/1980	9/9/2005	1"	Nipple	
1904 Hualapai Dr	7/1/1967	9/13/2005	1"	Driscope	Clamp
937 San Juan	7/1/1967	9/13/2005	1"	Driscope	Clamp
2859 Cresthill Dr	9/15/1990	9/16/2005	1"	Driscope	replaced section of pipe
2991 Coyote Run	6/30/1999	9/16/2005	1"	Driscope	Clamp
1235 Newberry Dr		9/18/2005	1"	Grey abs	Replaced section of pipe
2494 Copper Ct	7/1/1982	9/19/2005	3/4"	Driscope	Replaced section
1862 Rivera Blvd	1/26/1987	9/19/2005	1"	Driscope	replaced section of pipe
369 Meander Dr	7/1/1967	9/21/2005	3/4"	Grey abs	Replaced section of pipe
865 Hancock Rd	2/5/1973	9/23/2005	1"	Driscope	Clamp
2894 Hillview Dr	11/27/1986	9/23/2005	1"	Driscope	Clamp
2358 Half moon way	6/30/1999	9/27/2005	1"	Driscope	Replaced section
2559 Sundown Cir	2/3/2000	9/28/2005	1"	Driscope	Clamp
1944 Riverside Dr	7/1/1967	9/29/2005	3/4"	Tuff tube	Clamp
2526 Bridlewise In	5/9/1996	10/4/2005	1"	Driscope	Clamp
1660 Trane Rd	7/1/1988	10/5/2005	1"	Pvc	Replace tee and valves
896 Holly St	4/28/1972	10/5/2005	1"	Pvc	Replaced tee and valves
2357 Seminole Dr	7/1/1972	10/7/2005	1"	Driscope	Clamp
1360 Navajo Dr		10/8/2005	3/4"	Pvc	Capped abandoned Svc line
939 Captains Cove	7/1/1967	10/8/2005	1"	Abs	Replaced section of pipe
2500 Camino Del Rio	7/2/1971	10/12/2005	1 1/2"	PVC	Replaced 90'
670 Malibu Dr	7/1/1967	10/13/2005	1"	PVC	Replaced tee and valves
2591 Avenida Grande	7/1/1985	10/14/2005	1"	Driscope	Clamps
2808 Camino Del Rio	5/9/1980	10/17/2005	3/4"	Pvc	Replaced tee and valves
825 Safari Dr	7/1/1967	10/20/2005	3/4"	Pvc	Replaced valve and nipple
1302 Arcadia Dr	10/28/1975	10/25/2005	1"	Pvc	Replaced tee and valves

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2784 Paloma Senda	7/1/1985	10/28/2005	1"	Driscope	Clamp
1790 Rio Grande Rd	7/1/1967	10/29/2005	3/4"	PVC	flow lock and angle valve
2763 Avenida Grande	7/1/1985	10/30/2005	1"	Driscope	Two Clamps
1775 El Cazador	7/1/1985	11/1/2005	1"	Driscope	Hose clamp
2804 Camino Del Rio	5/9/1980	11/2/2005	1"	PVC	Replaced saddle and section of pipe
2350 Adobe Rd	11/1/2003	11/3/2005	1"	Driscope	Replaced section
2342 Shooting Star Dr	2/6/2001	11/3/2005	1"	Driscope	replaced section of pipe
2370 Columbus Dr	4/15/2003	11/8/2005	1"	Driscope	Poor install by contractor
1869 & 1871 Rivera Blvd	1/26/1987	11/10/2005	1"	Driscope	Replaced section
545 Ramar Rd	4/10/1974	11/11/2005	1"	CTS Poly	Clamp
2380 Thrid St		11/15/2005	2"	Pvc	Replaced 90' and small section of pipe
1325 Mohave Dr	1/2/1972	11/18/2005	3/4"	Pvc	Replaced 90' nipple,valve
1705 Yale Dr	3/17/1975	11/18/2005	3/4"	Pvc	Replaced nipple and valve
2717 Camino del Rio	12/31/1964	11/21/2005	2"	Pvc	Installed valve, On unmetered svc line, Truck ran over, abandon line till they pay for meter
1850 Hwy 95	3/2/1971	11/28/2005	1"	PVC	Clamp
2851 & 2855 Canyon Breeze Rd		11/30/2005	1"	Driscope	Clamp
2083 Rivera Blvd	7/1/1967	12/1/2005	3/4"	Nipple	Replaced nipple and valve
1869 Riviera Blvd	1/26/1987	12/1/2005	1"	Driscope	Will sch to replace
1795 Bluebonnet Dr	7/1/1967	12/2/2005	3/4"	Pvc	Replaced nipple and valve
1820 Ramar Rd	9/3/1971	12/3/2005	3/4"	Nipple	Replaced nipple and valve
1191 Camino CV	5/9/1980	12/8/2005	1"	PVC 90'	Replaced 90', Bushing, nipple , Valve
2771 Country Club Dr	5/9/1980	12/13/2005	3/4"	Nipple	Broke by contractor
1100 Jocabima Dr	4/28/1972	12/14/2005	1"	Poly	Clamp
1366 Park Ln	5/7/1969	12/20/2005	1"	Pvc	Replaced tee and valves
2804 Camino Del Rio	5/9/1980	12/23/2005	1"	Pvc	Replaced tee and Valves
2123 Clearwater Dr	7/1/1967	1/3/2006	1"	pvc	Replaced tee and valves
2437 Bluebird Ln	5/19/2000	1/3/2006	1"	Dris	Replaced section
2103 Swan Pl	7/1/1967	1/4/2006	3/4"	Nipple	Replaced nipple and valve
1974 Sea Breeze Ln	7/1/1959	1/10/2006	1"	abs	Clamp
2419 Juneberry Cir	12/10/1996	1/10/2006	1"	Dris	Clamp
838 Baseline Rd	2/5/1973	1/11/2006	1"	Dris	Clamp
265 Riverfront Dr	7/1/1980	1/16/2006	1"	ABS	Replaced section
790 Stahlman Dr	2/5/1973	1/18/2006	1"	Saddle	Replaced plugged saddle
2733 Paloma Senda	7/1/1985	1/20/2006	1"	Dris	Clamp
3001 Camino Del Rio	5/9/1980	1/23/2006	1"	Tee	replaced tee and valves
1769 & 1767 Sea Creek Dr	7/1/1967	1/24/2006	3/4"	Nipple	Replaced tee and valves
1588 Camino Ct	5/9/1980	1/28/2006	1"	Pvc	Replaced saddle and section of svc line
1668 Colina Dr	9/3/1971	1/28/2006	1"	Pvc	Replaced tee and valves
1775 El Cazador	7/1/1985	1/28/2006	1"	Dris	Clamp
1510 Arcadia Blvd	10/28/1975	1/29/2006	1"	Pvc	Replaced tee and valves
2079 Catalina Dr	7/1/1967	1/30/2006	1"	pvc	Rebuilt tee and Valves
2245 Clearwater Dr	7/1/1967	1/31/2006	3/4"	Nipple	Replaced nipple and added angle valve
1676 Colina Dr	9/3/1971	2/1/2006	1"	PVC	Rebuilt tee and Valves
2350 Miracle mile Rd	5/11/1989	2/1/2006	2"	Dris	Replace section and meter. (Peter Piper Pizza)
807 Gemstone Ave	12/5/1973	2/2/2006	1"	Dris	Replaced section
807 Church St	2/5/1973	2/4/2006	1"	Pvc	Flow lock, valve
604 Havasu Ln	7/1/1967	2/6/2006	3/4"	Poly	Clamp

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2625 Avenida Grande	7/1/1985	2/6/2006	1"	Dris	Clamp
1495 Varden Dr		2/6/2006	1"	Pvc	Rebuilt svc and valve
577 Citrus St	4/10/1974	2/8/2006	3/4"	Nipple	Replaced nipple and valve
2359 Castle Rock Cir	7/1/1967	2/14/2006	3/4"	Tuff Tube	Clamp
411 River Glen Dr	7/1/1970	2/15/2006	1"	Copper	Replaced saddle and section of svc line
1417 Church St	5/7/1969	2/16/2006	1"	Pvc	Replaced tee and valves
437 Stieger Dr	7/1/1967	2/17/2006	3/4"	Nipple	Replaced nipple and valve
2022 Merrill Ln	7/1/1982	2/20/2006	3/4"	Nipple	Reaplced nipple and angle valve
1705 Trane Rd	2/21/1966	2/21/2006	3/4"	Dris	Replaced section from Corp
2799 Paloma Senda	7/1/1985	2/22/2006	1"	Dris	Replaced Section
839 Brill Dr	2/5/1973	2/23/2006	1"	Pvc	Replaced tee & Valves
2332 Soaring Eagle Dr	5/8/2002	2/27/2006	1"	Dris	Replaced section
2342 Shooting Star Dr	2/6/2001	3/3/2006	1"	Dris	Clamp
1439 Rio Vista Dr	3/2/1971	3/5/2006	3/4"	Nipple	
970 Glen dr	4/28/1972	3/6/2006	1"	Pvc	Replaced tee and valves
1940 Talc Rd	9/3/1971	3/7/2006	1"	PVC	Replaced tee and Valves, (Broke by Vader tank)
1766 Coronado Dr	7/1/1959	3/7/2006	1.1/4"	Pvc	Had trouble shutting down main, Replaced tee and Vales rebuilt svc
849 Hancock Rd	12/5/1973	3/8/2006	1"	Dris	Clamp
2591 Avenida Grande	7/1/1985	3/8/2006	1"	Dris	Clamp
2597 Camino Del Rio	12/31/1967	3/10/2006	1"	Abs	Replaced tee and valves
409 Malibu Dr	7/1/1967	3/10/2006	1"	Pvc	Replaced tee and valves
300 Hwy 95	2/10/1986	3/15/2006	1"	Dris	Clamp
1464 Lause Rd	5/9/1980	3/15/2006	1"	Pvc	Replaced tee and valves
1775 El Cazador	7/1/1985	3/16/2006	1"	Dris	Clamp
2076 Panorama Dr	7/1/1967	3/20/2006	1"	Nipple	Customer broke nipple, Replaced nipple and installed meter riser
1464 Lause Rd	5/9/1980	3/21/2006	1"	Pvc	Box got ran over
2787 Paloma Senda	7/1/1985	3/23/2006	1"	Dris	Clamp
795 Terrace Dr	2/5/1973	3/27/2006	saddle	saddle	Replaced saddle and section of svc line
1385 Zircon Ave	7/6/1982	3/28/2006	3/4"	Nipple	replaced nipple and valve broke by contractor grading
2259 Merrill Ave	7/1/1982	3/31/2006	3/4"	Dris	Clamp
2784 Paloma Senda	7/1/1985	4/1/2006	1"	Dris	Replaced section
2529 Rollings Hills Rd	9/15/1990	4/2/2006	1"	Dris	Clamp
1150 Baseline Rd	1/16/1968	4/3/2006	3/4"	Pvc	Replaced nipple and valve
1221 Gemstone ave	2/21/1966	4/3/2006	3/4"	Nipple	Replaced nipple and valve
657 Holly St	3/17/1975	4/5/2006	1"	Nipple	Replaced nipple and valve
2534 Fox Ridge Ln	5/9/1996	4/7/2006	3/4"	Dris	Clamp
2792 Paloma Senda	7/1/1985	4/7/2006	1"	Dris	Clamp
1427 Yale Dr	3/17/1975	4/11/2006	3/4"	Nipple	Flow lock, valve
2890 Cresthill Dr	9/15/1990	4/12/2006	1"	Dris	Replaced section to meter stop
604 Havasu Ln	7/1/1967	4/13/2006	3/4"	Dris	Clamp
2407 Castle rock cir	7/1/1967	4/14/2006	3/4"	Tuff Tube	Replaced coupler
2659 Avenida Grande	7/1/1985	4/15/2006	1"	Dris	Clamp
1701 Hwy 95	7/1/1982	4/15/2006	1 1/2"	Sch 40	Replaced section on main inside trailer park 1 1/2" feed Entire park
2350 Adobe Rd	11/1/2003	4/16/2006	1"	Dris	Two Clamps
2886 Hillview Dr	11/27/1986	4/16/2006	1"	Dris	Replaced section
1815 Talc Rd	9/3/1971	4/21/2006	1"	Pvc	Replaced tee and Valves
2281 Soaring Eagle Dr	12/16/2003	4/21/2006	1"	Dris	Replaced section

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2449 Paseo Cisne	7/2/1971	4/23/2006	1"	Poly	Clamp
2131 Oswood Ln	7/1/1967	4/25/2006	1"	Nipple	Replaced nipple and valve
1649 Riverfront dr		4/25/2006	3/4"	Sch 40	Replaced Tee and valve
2613 Avenida Grande	7/1/1985	4/27/2006	1"	Dris	Replaced section from Corp
386 Rio Grande Way	7/1/1967	4/28/2006	1"	nipple	Replaced nipple and valve, Broke by Plumber
2705 Avenida Grande	7/1/1985	4/30/2006	1"	Dris	Replaced section
2818 Camino Del Rio	5/9/1980	5/1/2006	1"	Nipple	Replaced nipple
2805 Amberwood Dr	8/31/2000	5/1/2006	1"	Dris	Clamp
2633 Avenida Grande	7/1/1985	5/3/2006	1"	Dris	Clamp
2145 Hermosa Dr	7/1/1967	5/4/2006	3/4"	Nipple	Replaced nipple and valve
2659 Avenida Grande	7/1/1985	5/4/2006	1"	Dris	Replaced section from main
1133 Zircon Ave	1/16/1968	5/4/2006	1"	Black abs	Replaced tee and valves
1395 Zircon Ave	7/6/1982	5/4/2006	1"	Gray abs	Two Clamps
1358 Church St	5/7/1969	5/4/2006	1"	Pvc	Replaced nipple and valve
1990 E Riverbend Cir	7/1/1967	5/6/2006	3/4"	Poly	Clamp
2350 Adobe Rd	11/1/2003	5/11/2006	3/4"	Dris	Muller blew off. Replaced guts and stuck back on
Irr infront Canyon Ridge		5/11/2006	2"	Dris	Clamp
386 Rio Gande Way	7/1/1967	5/12/2006	3/4"	Nipple	Replaced nipple
2371 Juneberry Cir	8/31/2000	5/15/2006	1"	Dris	Clamp
1852 Riverside Dr	7/1/1967	5/16/2006	Saddle	saddle	Replaced saddle need to replaced section of driveway
2814 Camino Del Rio	5/9/1980	5/16/2006	1"	Pvc	Replaced tee and valve,, Ran over by contractor
251 Merrill Ave		5/17/2006	1"	Dris	Clamp
1439 Rio Vista Dr	3/2/1971	5/18/2006	3/4"	Nipple	Replaced nipple and valve
1118 Hwy 95	7/1/1970	5/18/2006	3/4"	Mtr Coupling	Replaced Mtr coupling
2897 Grandhill Rd	9/15/1990	5/19/2006	1"	Dris	Replaced section from Corp
730 Stahlman Dr	2/5/1973	5/19/2006	3/4"	PVC	Flow lock and meter valve
2419 Bluebird Ln	5/19/2000	5/21/2006	1"	Dris	Clamp
2442 Bluebird Ln	5/19/2000	5/23/2006	1"	Dris	Clamp
2625 Paloma Senda	7/1/1985	5/24/2006	1"	Dris	Clamp
330 Meander Dr	7/1/1967	5/25/2006	Saddle	saddle	Replaced plugged saddle
815 Baseline Rd	2/5/1973	5/25/2006	saddle	saddle	Replaced plugged saddle
2625 Avenida Grande	7/1/1985	5/26/2006	1"	Dris	Clamp
2731 Avenida Grande	7/1/1985	5/26/2006	1"	Dris	Clamp
2148 Lause Ln	5/9/1980	5/26/2006	Nipple	Nipple	Replaced nipple AND VALVE
570 Malibu Cir N	7/1/1967	5/26/2006	1"	Pvc	Replaced section of svc and valve, Hit by Eagle Fence
2893 Winchester Dr	5/9/1996	5/26/2006	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	5/31/2006	1"	Dris	Replaced section of pipe to meter branch
2528 Fox Run Ln	5/9/1996	6/1/2006	1"	Dris	Replaced section of pipe
1755 El Cazador	7/1/1985	6/1/2006	1"	Dris	Replaced section
2250 Merrill Ave	7/1/1982	6/1/2006	3/4"	Dris	Replaced from tee to Valve
1577 El Cazador		6/5/2006	1"	Dris	Replaced from street to Mtr Boxes
2455 Bluebird Ln	5/19/2000	6/6/2006	1"	Dris	Clamp
1734 Yale Dr	3/17/1975	6/6/2006	nipple	Nipple	Replaced nipple
2705 Avenida Grande	7/1/1985	6/7/2006	1"	Dris	Clamp
1380 Tuthill Dr	6/23/1968	6/7/2006	Nipple	Nipple	Replaced nipple and valve
378 Whitewater Dr	7/1/1967	6/7/2006	Nipple	Nipple	Replaced nipple and valve
2404 Castle Rock Cir	7/1/1967	6/7/2006	3/4"	Tuff Tube	Clamp
1349 Riverfront dr	6/23/1968	6/11/2006	3/4"	Pvc	Replaced section

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1746 Ramar Rd	9/3/1971	6/13/2006	1"	Pvc	Replaced tee and valves
1224 Lause Rd	5/9/1980	6/14/2006	Nipple	Nipple	Replaced nipple and valve
553 Mead Ln	7/1/1967	6/15/2006	nipple	Nipple	Replaced nipple and angle valve < broke due to Mtr change
206 Lee ave	7/1/1970	6/15/2006	1"	Dris	Two Clamps
2350 Adobe Rd	11/1/2003	6/15/2006	1"	Dris	replaced section
1900 Riverside Dr	7/1/1967	6/16/2006	1"	Svc	Clamp
2839 Winchseter Dr		6/18/2006	1"	Dris	Clamp
570 Ramar Dr	4/10/1974	6/21/2006	1"	Poly	clamp
1012 Merrill Ct	7/1/1982	6/23/2006	3/4"	Poly	Clamp
2200 Kingston Ln	7/1/1967	6/24/2006	3/4"	Poly	Clamp
2897 Country Hills Rd	9/15/1990	6/25/2006	1"	Poly	Clamp
1830 Corona Vista Dr	7/1/1985	6/26/2006	1"	Poly	Clamp
2551 Sundown Cir	2/3/2000	6/26/2006	1"	Poly	Clamp
2892 Cresthill Dr	9/15/1990	6/30/2006	1"	Dris	Replaced section
2281 Merrill ave	7/1/1982	6/30/2006	3/4"	Dris	Repiced 3/4" from tee
1421 Colina Dr	10/28/1975	7/1/2006	1"	Pvc	Replaced tee and valves
1117 Calle De Allegro	7/1/1969	7/1/2006	1 1/2"	Pvc	Replaced section to meters
1283 Verano Dr	10/28/1975	7/2/2006	3/4"	Pvc	Replaced nipple and valve
2870 Hillview Dr	11/27/1986	7/2/2006	1"	Dris	Replaced section from corp
2350 Adoba Rd	11/1/2003	7/3/2006	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	7/5/2006	1"	Dris	Replaced section from Branch
1450 Lause Rd	5/9/1980	7/5/2006	1"	Pvc	Replaced tee and valves
2610 Via Corona	7/1/1985	7/9/2006	1"	Dris	Replaced section
2625 Avenida Grande	7/1/1985	7/10/2006	1"	Dris	
2350 Adobe Rd	11/1/2003	7/11/2006	1"	Dris	Replaced section
1776 Forest Dr	7/1/1967	7/12/2006	1"	Pvc	Replaced tee and valves
2988 Ranch House Rd	7/1/2008	7/12/2006	1"	Dris	Installed 90' to take out bad Angle
2342 Silverthorne Dr	5/30/2006	7/12/2006	1"	Dris	Clamp
2868 Huntington Ln	5/9/1996	7/16/2006	1"	Dris	Clamp
2374 Columbus Dr	4/15/2003	7/16/2006	1"	Dris	Replaced section with a bad angle to Meters
2625 Paloma Senda	7/1/1985	7/17/2006	1"	Dris	Replaced section
2319 Merrill ln	7/1/1982	7/17/2006	3/4"	Dris	Marks were good/replaced section
1780 Forrest Dr	7/1/1967	7/17/2006	1"	pvc	Replaced saddle and 1 Foot of pipe
2795 Paseo Grande		7/17/2006	1"	Dris	Clamp
2733 Avenida Grande	7/1/1985	7/18/2006	1"	Dris	Clamp
2449 Paseo Cisne	7/2/1971	7/18/2006	1"	Dris	Replaced section
2890 Huntington Ln	5/9/1996	7/19/2006	1"	Dris	Clamp
859 Hancock Rd	12/5/1973	7/20/2006	1"	Dris	Clamp
2697 Rolling Hills		7/20/2006	1"	Dris	Clamp
819 Hancock Rd	2/5/1973	7/24/2006	1"	Dris	Clamp
1492 Summit Ln	3/2/1971	7/26/2006	Nipple	Nipple	Replaced nipple valve and meter
1848 El Monte Dr	7/1/1967	7/27/2006	1"	Pvc	Temp fix
396 Patillo Dr	7/1/1980	7/27/2006	3/4"	Pvc	Installed valve and flow lock
2592 Rolling Hills Rd	5/8/2007	7/27/2006	1"	Dris	Replaced section from Corp
2410 Rio Dr	7/1/1970	7/29/2006	1"	Abs	Replaced section
2410 Rio Dr	7/1/1970	7/29/2006	1"	Abs	Found Ball valve/ T off
2893 Country Hills Rd	9/15/1990	7/29/2006	1"	Dris	Clamp
2293 Merrill Ln	7/1/1982	8/1/2006	1"	Dris	Replaced section
1099 Copper Dr	7/1/1982	8/1/2006	1"	Dris	Replaced section from tee to meter
369 Meander Dr	7/1/1967	8/2/2006	3/4"	Abs	Replaced section
2310 Merrill Ave	7/1/1982	8/3/2006	1"	Dris	Clamp
1037 Citrus St	10/31/1968	8/5/2006	1"	Pvc	Replaced section to tee

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2581 Fox Ridge Ln	5/9/1996	8/5/2006	1"	Dris	Clamp
1465 Rio Vista Dr	3/2/1971	8/8/2006	1"	Pvc	Replaced tee and valve
2421 Merrill Ave	7/1/1982	8/9/2006	1"	Dris	Replaced 3/4" Section from tee
599 Roadrunner Dr	4/10/1974	8/10/2006	1"	Dris	Clamp
1650 Quartz Cir	8/15/1966	8/14/2006	1"	Abs	Replaced section
2352 Castle Rock Cir	7/1/1967	8/14/2006	3/4"	Tuff Tube	Clamp
377 Church St	7/1/1980	8/15/2006	1'	Dris	Clamp
1681 Arena Dr	3/2/1971	8/15/2006	1"	Pvc	Replaced Section
1836 Riviera Blvd	1/26/1987	8/15/2006	1"	Dris	Replaced section (Need concrete Sidewalk)
1493 Summit Ln	3/2/1971	8/16/2006	1"	Pvc	Bank Caved in on pipe
840 Riverfront Dr	2/5/1973	8/18/2006	Nipple	nipple	Replaced nipple and valve
2585 Corona Redonda	7/1/1985	8/21/2006	1"	Dris	Replaced section
1012 Merrill Ct	7/1/1982	8/22/2006	1"	Dris	Replaced section
1115 Copper LN	7/1/1982	8/24/2006	3/4"	Dris	Replaced section,Marks were good
2391 1st Street	7/1/1970	8/24/2006	2" BO	Pvc	Replced 90' to end of Blow Off
2252 Mountainside Dr	9/24/1998	8/25/2006	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	8/28/2006	1"	Dris	Replaced section to Brass branch
2350 Adobe Rd	11/1/2003	8/30/2006	1"	Dris	Replaced section to Meter Branch
1470 Summit Dr	4/14/1968	8/30/2006	1"	CTS Poly	Replaced section
1342 Silverthorne Dr		9/6/2006	1"	Dris	Replaced section
1203 Linda Vista	12/31/1964	9/7/2006	1"	Pvc	Replaced tee and Plumbed back together
2350 Adobe Rd	11/1/2003	9/9/2006	1"	Dris	Replaced section
1963 Riverbend Cir W	7/1/1967	9/11/2006	1"	Tuff Tube	Clamp
1963 W Riverbend Cir	7/1/1967	9/11/2006	1"	Poly B	Clamp
2548 Valley Vista	7/1/1985	9/13/2006	1"	Dris	Clamp
411 River Glen Dr	7/1/1970	9/13/2006	1"	Copper	Tighten Flair Coupling
2497 Juneberry Cir	5/19/2000	9/13/2006	1"	Dris	replaced section
2835 Calle De Mercado		9/15/2006	1"	Dris	Replaced section
2850 Hillview Dr	11/27/1986	9/17/2006	1"	Dris	Replaced section
2455 Bluebird Ln	5/19/2000	9/20/2006	1"	Dris	Clamp
1699 Alta Vista Dr	6/2/1970	9/20/2006	1"	Pvc	Replaced section
2330 Merrill Ave	7/1/1982	9/21/2006	3/4"	Dris	Clamp
1396 Dorado Way	3/2/1971	9/21/2006	1"	Pvc	Replaced section
1396 Dorado Way	3/2/1971	9/21/2006	1"	saddle	Saddle started leaking from Svc being hit
865 Hancock Rd	2/5/1973	9/22/2006	1"	Dris	Clamp
1365 Lincoln Ln	6/23/1968	9/26/2006	1"	Pvc	clamp
1417 Lincoln Ln	6/23/1968	9/26/2006	3/4"	Pvc	Replaced section to valve under concrete driveway
2022 Merrill Ln	7/1/1982	9/27/2006	3/4"	Pvc	Replaced bushing into Manifold
1716 Dorado Dr	3/2/1971	9/27/2006	1"	Pvc	Marks were good Replaced section
1651 Sierra Vista Dr	6/2/1970	9/28/2006	1"	Abs	Replaced section
1624 Ramar Rd	6/2/1970	9/28/2006	1"	Abs	Marks were good, Replaced section
2350 Adobe Rd	11/1/2003	9/29/2006	1"	Dris	Clamp
2251 Merrill Ln	7/1/1982	9/30/2006	1"	Dris	Replaced section to meters
201 Riverfront Dr	7/1/1980	10/1/2006	3/4"	Copper	Replaced section from tee to meter
1479 Monte Vista Dr	3/2/1971	10/3/2006	1"	Pvc	Bank Caved in on pipe
1525 Sierra Vista Dr	6/2/1970	10/4/2006	1"	Pvc	Marks were destroyed
2899 Hillview Dr	11/27/1986	10/5/2006	1"	Dris	Replaced section, Abondon svc next to New
1631 Arena Dr	3/2/1971	10/9/2006	1"	Pvc	Appears that they cut out of the way
2319 Merrill Ln	7/1/1982	10/9/2006	3/4"	Dris	Clamp

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
793 Riverfront Dr	2/5/1973	10/9/2006	1"	Pvc	Replaced tee and valves
1411 Willow Ln	7/1/1955	10/9/2006	3/4"	Nipple	Replaced nipple and valve
1639 Shamrock Rd	7/6/1982	10/9/2006	1"	Pvc	Replaced 90' and valve
2327 Silverthorne Dr	5/30/2006	10/9/2006	1"	Dris	Clamp
1443 Orilla Ln	3/2/1971	10/9/2006	1"	Pvc	Marks were good Bank fell on pipe
1906 Oliver Dr	7/1/1967	10/10/2006	1'	Pvc	Clamp
1471 Monte Vista Dr	3/2/1971	10/11/2006	1"	Pvc	Marks were good
1430 Trane Rd	6/23/1968	10/11/2006	3/4"	Pvc	Replaced 90' and valve
2956 Country Club Dr	5/9/1980	10/11/2006	1"	Pvc	Replaced saddle and corp
1655 Sierra Vista Dr	6/2/1970	10/12/2006	1"	Dris	Hit while moving Trench box
1996 E Riverbend Cir	7/1/1967	10/12/2006	1"	Poly B	Clamp
1490 Arena Dr	3/2/1971	10/13/2006	1"	Pvc	Valve Broke from being tighten to much by them. They repaired themselves without calling us.
2701 Paloma Senda	7/1/1985	10/14/2006	1"	Dris	Clamp
2438 Bluebird Ln	5/19/2000	10/14/2006	1"	Dris	Clamp
2993 Coyote Run	6/30/1999	10/17/2006	1"	Dris	Clamp
1645 Arena Dr	3/2/1971	10/18/2006	1"	Pvc	Bank Caved in on pipe
1445 Orilla Ln	3/2/1971	10/18/2006	1"	Pvc	Replaced section marks were good
2386 Castle Rock Cir	7/1/1967	10/19/2006	3/4"	Tuff Tube	Replaced section
2350 Adobe Rd	11/1/2003	10/20/2006	1"	Dris	Clamp
632 Holly St	4/10/1974	10/20/2006	3/4"	Pvc	Customer Broke svc
2461 Bluebird Ln	5/19/2000	10/23/2006	1"	Dris	Clamp
1700 Ramar Rd	9/3/1971	10/24/2006	1"	Pvc	Broke svc in two spots, Had to rebuild tee due to full of rocks
1120 Avienda Del Sol	12/31/1967	10/24/2006	1 1/2"	Abs	Replaced 90' and valve
1112 Copper Ln	7/1/1982	10/24/2006	1"	Dris	Broke due to compacting new asphalt
1666 Rio Vista Dr	9/3/1971	10/25/2006	1"	Dris	Broke tee and 2 Meters with Loader
1770 Paseo De Playa	7/1/1959	10/27/2006	1"	Dris	Replaced section from tee to Valve
2383 Bluebird Ln	8/31/2000	10/27/2006	1"	Dris	Replaced section
Rio Vista Bay		10/30/2006	1"	Pvc	Marks were good replaced from main
2350 Adobe Rd	11/1/2003	10/31/2006	2"	Dris	Replaced section to meter and valkve
1600 Monte Vista Dr	6/2/1970	10/31/2006	1"	Pvc	Was not marked with possible plugged saddle Abondoned svc line
1731 Rio Vista Bay	9/3/1971	10/31/2006	1"	Pvc	Marks were good
1474 Arena Dr	3/2/1971	11/1/2006	1"	Pvc	Ran Over Meter Boxes Replaced tee and valves & Meters
1127 Avienda Del Sol	12/31/1967	11/1/2006	1"	nipple	Replaced nipple and valve
2357 Taos Dr	7/1/1972	11/2/2006	1"	Dris	Replaced section and branch
1570 Monte Vista Dr	6/2/1970	11/2/2006	Nipple	nipple	Box got ran over
694 Palo Verde	3/17/1975	11/6/2006	1"	Pvc	Replaced section and tee , valves
2350 Adobe Rd	11/1/2003	11/6/2006	1"	Dris	Clamp
1815 Ramer Rd	9/3/1971	11/6/2006	1'	Pvc	Mark off by 3 feet, Replaced section
1815 Ramer Rd	9/3/1971	11/6/2006	1"	Pvc	Inspector fell in hole breaking pipe, Replaced tee and valves
1483 Summit Ln	3/2/1971	11/7/2006	1"	Pvc	Bad Backfill/Broke during compacting for new Asphalt
2338 Silverthorne Dr	5/30/2006	11/7/2006	1"	Dris	Replaced sectiono
1663 Sierra Vista Dr	6/2/1970	11/8/2006	1"	Pvc	Rock hit exposed pipe
1583 Monte Vista Dr	6/2/1970	11/8/2006	1"	Pvc	Marks were good
1628 Talc Rd	6/2/1970	11/8/2006	1"	Pvc	Broke during backfill
1694 Arena Dr	3/2/1971	11/8/2006	1'	Pvc	Bank Caved in on pipe
2383 Juneberry Cir	8/31/2000	11/8/2006	1"	Dris	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
787 Glen Dr	2/5/1973	11/10/2006	1"	Pvc	Broke hooking up valve to meter/Replaced tee and vales
1432 Dorado Way	3/2/1971	11/13/2006	1"	Pvc	Brank Caved in abd broke tee/Marks were good
1457 Monte Vista dr	3/2/1971	11/13/2006	Nipple	Nipple	Broke with loader
563 Coral Reef Dr	7/1/1967	11/13/2006	Nipple	Nipple	Replaced nipple and valve broke by plumber
411 River glen Dr	7/1/1970	11/13/2006	1"	Copper	Replace section from tee
1715 Rio Vista Bay	9/3/1971	11/14/2006	Nipple	Nipple	Hit with Loader moving dirt
1436 Terrace Dr	6/23/1968	11/14/2006	Nipple	Nipple	Replaced nippli and valve
1820 Clearwater Dr	7/1/1967	11/14/2006	1"	Abs	Customer Broke,
1677 Quartz Cir	8/15/1966	11/18/2006	1"	Tuff Tube	
1396 Dorado Way	3/2/1971	11/18/2006	1"	Pvc	
2050 Diamond Dr	7/1/1967	11/20/2006	Nipple	Nipple	
1530 Loma Vista Dr	4/28/1972	11/20/2006	1"	Pvc	Mark was off by 4 feet
2534 Fox Ridge Ln	5/9/1996	11/20/2006	3/4"	Dris	Replaced section
2795 Avenida Grande	7/1/1985	11/21/2006	1"	Dris	Clamp
1798 Forest Way	7/1/1967	11/22/2006	Nipple	Nipple	broke due to roots
2875 Hillview Dr	11/27/1986	11/22/2006	1"	Dris	Replaced section
2647 Avenida Grande	7/1/1985	11/23/2006	1"	Dris	Clamp
1934 Riverside Dr	7/1/1967	11/26/2006	1"	Pvc	Replaced tee and valves
2871 Country Club Dr	5/9/1980	11/27/2006	1"	Pvc	Action One plumbing broke tee, Replaced tee and vales
2606 Via Arroyo	7/1/1972	11/27/2006	3/4"	Pvc	Replaced 90'
Canyon & Red Ceder	2/24/1992	11/28/2006	2"	Dris	Replaced section to meter
1661 Arena Dr	3/2/1971	11/29/2006	1"	Pvc	Hit Meter Box While Backfilling
1848 El Monte Dr	7/1/1967	11/29/2006	1"	Pvc	Replaced sectio to tee
1120 Avienda Del Sol	12/31/1967	12/3/2006	1"	Pvc	Replaced 90'
1424 Monte Vista Dr	3/2/1971	12/4/2006	1"	PVC	Broke our side fixing Customers side
1465 Rio Vista Dr	3/2/1971	12/4/2006	1"	Pvc	Bad badfill
2147 Oswood Ln	7/1/1967	12/5/2006	1"	Pvc	Broke our tee hooking up to meter
681 Ramar Rd	3/17/1975	12/5/2006	1"	Pvc	Replaced tee and valves brokw by customer
1645 Balsa Rd	9/3/1971	12/6/2006	1"	Pvc	Marks were good
2420 Bluebird Ln	5/19/2000	12/6/2006	3/4"	Dris	Tighten Clamp
1442 Plata Dr	3/2/1971	12/6/2006	1"	Copper	Marks were off alittle
Highland trl & Desert Sky	11/27/1997	12/6/2006	2"	Dris	Clamp
1394 Plata Dr	3/2/1971	12/7/2006	1"	Pvc	Unmarked, Svc not being used in middle of lot
1680 Sierra Vista dr	6/2/1970	12/7/2006	2"	pvc	Bad backfill broke svc off of corp
2548 Valley Vista	7/1/1985	12/8/2006	1"	Dris	Replaced section
1443 Orilla Ln	3/2/1971	12/10/2006	1"	Pvc	Rock fell and hit pipe
1780 Dorado Dr	10/28/1975	12/11/2006	Nipple	Nipple	Self inflicted
1640 Mesa Vista Ln	6/2/1970	12/11/2006	1"	Pvc	Marks were good
1731 Rio Vista Dr	9/3/1971	12/12/2006	1"	Pvc	
1668 Rio Vista Dr	9/3/1971	12/12/2006	Nipple	Nipple	Broke nipple
1397 Plata Dr	3/2/1971	12/12/2006	1"	Pvc	Unmarked by Chris
1668 Rio Vista Dr	9/3/1971	12/12/2006	3/4"	Nipple	Broke svc tee, Box Visible
1731 Rio Vista Bay	9/3/1971	12/12/2006	1"	Pvc	Marks were good
2893 Country Hills Rd	9/15/1990	12/13/2006	1"	Dris	Replaced section to Brass branch
1685 Turquoise rd	8/15/1966	12/13/2006	1"	Pvc	Loader ran over MTR box
1644 Williams way	9/3/1971	12/14/2006	1"	Pvc	Marks were good, Replaced section
2869 Camino Del Rio	5/9/1980	12/14/2006	1"	Pvc	Replaced tee and valves. Ran over by Contractor

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2876 Hunnigton Ln	5/9/1996	12/16/2006	1"	Dris	Clamp
1716 Dorado Dr	3/2/1971	12/19/2006	1"	Pvc	Marks were good
1850 Rio Grande Rd	7/1/1967	12/20/2006	3/4"	Pvc	Replaced section
2350 Adobe Rd	11/1/2003	12/21/2006	1"	Dris	Replaced section
411 River glen Dr	7/1/1970	12/22/2006	1"	Copper	Replaced section
432 Santa Maria Rd	7/1/1967	12/22/2006	Nipple	nipple	Replaced nipple and valve
2342 Merrill Ave	7/1/1982	12/22/2006	3/4"	Dris	Replaced section and valve
2897 Country Hills Rd	9/15/1990	12/23/2006	1'	Dris	Replaced section
1656 Rio Vista Dr	9/3/1971	12/25/2006	1"	pvc	Replaced section
1726 Torro Dr	9/3/1971	12/26/2006	1"	pvc	Replaced tee and valves, Claw was reposible for hookiing up customer piping
1481 Riverfront Dr	6/23/1968	12/28/2006	1"	Pvc	Replaced nipple and valve
2350 Adobe Rd	11/1/2003	12/28/2006	1"	Dris	Replaced section
1481 Summit ln	4/14/1968	12/28/2006	Nipple	nipple	Replaced nipple and valve
2022 Merrill Ln	7/1/1982	12/29/2006	Nipple	nipple	Replaced nipple and valve
1697 Alta Vista Dr	6/2/1970	12/29/2006	Nipple	nipple	Broke due to roots
1357 Mirada Dr	5/7/1969	12/31/2006	1"	nipple	Replaced nipple installed 2 Meter risers
2350 Adobe Rd	11/1/2003	1/1/2007	1"	Dris	Replaced section
1860 Talc Rd	9/3/1971	1/2/2007	1"	Pvc	Replaced section
1771 Balsa Rd	9/3/1971	1/2/2007	1"	Pvc	Replaced section
1452 Colina Dr	10/28/1975	1/3/2007	1"	Pvc	Replaced saddle
1442 Plata Dr	3/2/1971	1/4/2007	1"	Copper	Replaced section, Svc went on a bad angle
1635 Mesa Vista Dr	6/2/1970	1/4/2007	1"	Pvc	Replaced section
1453 Plata Dr	3/2/1971	1/5/2007	1"	Copper	Marks were off, Svc went on bad angle
1960 Talc Rd	9/3/1971	1/8/2007	1"	Pvc	Replaced section
2799 Paloma Senda	7/1/1985	1/8/2007	1"	Dris	Replaced section
1098 Copper Ln	7/1/1982	1/8/2007	3/4"	Dris	Replaced section
350 Meander Dr	7/1/1967	1/8/2007	1"	Pvc	Replaced tee and valves
2624 Paloma Senda	7/1/1985	1/9/2007	1"	Dris	Replaced section
1491 Arena Ct	10/28/1975	1/9/2007	1"	Pvc	Replaced section
1700 Williams Dr	9/3/1971	1/9/2007	1"	Pvc	Replaced section
1976 Talc Cir	9/3/1971	1/10/2007	1"	Pvc	Hit main and svc line
1681 Arena Dr	3/2/1971	1/10/2007	3/4"	Pvc	replaced nipple and valve
1905 Talc Rd	9/3/1971	1/11/2007	1"	Dris	Replaced tee and valves
1749 Sierra Vista Dr	6/2/1970	1/12/2007	1"	Pvc	Replaced section of svc
1492 Summit Ln	3/2/1971	1/13/2007	1"	Pvc	Replaced nipple and valve
1671 Williams wy	9/3/1971	1/15/2007	1"	Pvc	Replaced section
1710 Arriba Dr	9/3/1971	1/15/2007	Nipple	Nipple	Broke nipple and valve
1730 Arena Dr	10/28/1975	1/16/2007	1"	Pvc	
1670 Toro Dr	9/3/1971	1/16/2007	3/4"	Pvc	Replaced tee nad valves
1730 Arena Dr	10/28/1975	1/16/2007	1"	Pvc	Replaced section. Marks were good
2529 Rolling Hills Rd	9/15/1990	1/17/2007	1"	Dris	Replaced section from Corp
1661 Arena Dr	3/2/1971	1/20/2007	1"	Pvc	Ran over meter box
1665 Bluebonnet Blvd	3/17/1975	1/21/2007	1"	Saddle	Replaced saddle and corp
1640 Mesa Vista Dr	6/2/1970	1/22/2007	1"	Pvc	Mark was off
1690 Toro Rd	9/3/1971	1/22/2007	1"	Pvc	Replaced section
1699 Ramar Rd	9/3/1971	1/24/2007	1"	Pvc	Replaced 90' and valve
1762 Arena dr	10/28/1975	1/24/2007	1"	Pvc	Replaced bushing and valve
1769 Dorado Dr	10/28/1975	1/24/2007	1"	Pvc	Replaced tee and valves

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1419 Colina Dr	10/28/1975	1/24/2007	1"	Pvc	Svc mark off by 4 feet, Replaced section
2395 Juneberry Cir	8/31/2000	1/29/2007	1"	Dris	Replaced section
1452 Luna Ln	3/2/1971	1/29/2007	1"	Copper	Svc mark off by 4 feet, Replaced section
1797 Dorado Dr	10/28/1975	1/29/2007	1"	Pvc	Bank caved in on svc, replaced saddle and section of svc
1850 W Arcadia Cir	10/28/1975	1/29/2007	1"	Pvc	Rock fell on svc, Replaced saddle and svc
1808 Arena Dr	10/28/1975	1/30/2007	1"	Pvc	Broke svc while backfilling
330 Meander Dr	7/1/1967	1/30/2007	Nipple	Nipple	replaced nipple and valve
598 Roadrunner Dr	4/10/1974	1/31/2007	1"	Dris	Replaced section
1659 Quartz Cir	8/15/1966	1/31/2007	1"	Abs	Replaced section
2973 Carefree Dr	4/15/2003	2/1/2007	1"	Dris	Replaced section from corp
1800 Clubhouse Dr	7/1/1979	2/2/2007	2"	Copper	Replaced 2" Gate Valve
2101 Buccaneer Dr	7/1/1967	2/2/2007	Nipple	Pvc	Replaced nipple and valve
1691 Arena Dr	3/2/1971	2/3/2007	Bushing	Pvc	Replaced bushing and valve
2630 Paloma Senda	7/1/1985	2/4/2007	1"	Dris	Replaced section
1793 Dorado Dr	10/28/1975	2/5/2007	1"	Pvc	Bad backfill Cracked tee by main
2890 Cresthill Dr	9/15/1990	2/5/2007	1"	Dris	Clamp
1797 Dorado Dr	10/28/1975	2/5/2007	1"	Pvc	Replaced section from Tee, Bad backfill
1844 Arcadia Bay	10/28/1975	2/5/2007	1"	Pvc	Replaced tee and valves
1680 Turquoise Rd	8/15/1966	2/5/2007	1"	Pvc	Replaced tee and valves
2259 Merrill Ln	7/1/1982	2/5/2007	3/4"	Dris	Clamp
2301 Merrill Ln	7/1/1982	2/5/2007	3/4"	Dris	Replaced section
1921 Morning Glory Trl	7/1/1959	2/6/2007	1 1/4"	Pvc	Replaced section, Tee and valves
1844 Arcadia Bay	10/28/1975	2/6/2007	1"	Pvc	Replaced 90' & Coupler
2581 Camino Del Rio	12/31/1967	2/7/2007	3/4"	Pvc	Remove riser replaced BV
1641 Williams Way	9/3/1971	2/7/2007	1"	Pvc	replaced tee and valves, Broke by customer
2350 Adobe Rd	11/1/2003	2/8/2007	1"	Dris	Replaced section
2350 Adobe Rd	11/1/2003	2/9/2007	1"	Dris	Replaced section
811 Brill Dr	2/5/1973	2/10/2007	Nipple	Nipple	Customer broke nipple
567 Palo Verde	4/10/1974	2/10/2007	1"	Poly	Replaced section
1765 Rollando DR	7/1/1959	2/12/2007	3/4"	Poly	Clamp
1644 Talc Plz	9/3/1971	2/12/2007	1"	Pvc	Marks were good
1411 Willow Ln	7/1/1955	2/12/2007	3/4"	Pvc	Replaced 90'
2509 Valley Vista	7/1/1985	2/13/2007	1"	Dris	Replaced section, Marks were good
1790 Riverside Dr	7/1/1967	2/13/2007	Saddle	saddle	Replaced saddle
1655 Alta Vista Dr	6/2/1970	2/13/2007	3/4"	Nipple	Replaced nipple
1789 Dorado Dr	10/28/1975	2/14/2007	1"	Pvc	Marks were good
1739 Corona Vista Dr	7/1/1985	2/15/2007	1"	Dris	Replaced section and tee with valves
1770 Rio Vista Dr	9/3/1971	2/15/2007	1"	Pvc	Marks were off, Svc went on bad angle
1650 Toro Dr	9/3/1971	2/15/2007	1"	Pvc	Ran over Mtr box, Replaced tee and valves
2578 Country Club Dr	5/6/1969	2/18/2007	1"	Pvc	Replaced section
2141 Rivera Blvd	7/1/1967	2/20/2007	1"	Pvc	Replaced section
1848 Arcadia Plz	10/28/1975	2/20/2007	1"	Pvc	Marks were good Replaced saddle and corp
1904 Sweetwater		2/21/2007	3/4"	Pvc	Replaced 90' and valve
1849 Rio Vista Dr	9/3/1971	2/21/2007	1"	Pvc	Marks were good
1463 Verano Pl	10/28/1975	2/21/2007	1"	Pvc	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1587 Emerald Dr	1/19/1966	2/21/2007	1"	Pvc	Clamp
2350 Adobe Rd	11/1/2003	2/21/2007	1"	Dris	Clamp
1731 Dean Dr	3/17/1975	2/22/2007	1"	Pvc	Replaced tee and valves
863 Holly St	2/5/1973	2/22/2007	Nipple	Nipple	Replaced nipple and valve
1942 El Monte Dr	7/1/1967	2/23/2007	3/4"	Pvc	Replaced 90' and valves
1852 Arcadia Bay	10/28/1975	2/24/2007	1"	Pvc	Replaced tee and valves
2289 Soaring Eagle Dr	12/16/2003	2/25/2007	1"	Dris	Replaced section to Branch
1864 Colorado Blvd	7/1/1967	2/26/2007	1"	Poly	Clamp
1848 Arcadia PLZ	10/28/1975	2/26/2007	1"	Pvc	Replaced tee, Overtighten by DS
1876 Del Norte Dr	7/1/1967	2/27/2007	1"	Dris	Replaced section
1809 Esclaria Cir	10/28/1975	2/27/2007	1"	pvc	Replaced section
1639 Mesa Vista Ln	6/2/1970	2/28/2007	1"	Pvc	Marks were good
1310 Colibri Ct		3/1/2007	1"	Dris	Replaced section
1984 Rio Vista Dr	9/3/1971	3/1/2007	1"	pvc	Marks were good
3012 Milano Dr	7/1/2008	3/1/2007	1"	Vanguard	Bad installl by Silverbutte
1630 Colina Dr	9/3/1971	3/2/2007	1"	Pvc	Hit Meter box
1682 Colina Dr	9/3/1971	3/5/2007	3/4"	Pvc	Hit Meter box
1575 Alta Vista Dr	4/28/1972	3/6/2007	1"	Poly	Hit Unknown svc
2623 Calle De Mercado	7/1/1985	3/7/2007	1", 1"	Dris	Marks were good, Thought svc's lines were deeper
2635 Calle De Mercado	7/1/1985	3/7/2007	1"	Dris	Marks were good
2548 Majestic Way	1/22/2001	3/8/2007	1"	Dris	Replaced section
1491 Arena Ct	10/28/1975	3/8/2007	3/4"	Pvc	Hit svc tee
2717 Avenida Grande	7/1/1985	3/9/2007	1"	Vanguard	Split where it was pinched off
1494 Arena Ct	10/28/1975	3/12/2007	1"	Pvc	Contractor broke tee while working on Customer side plumbing
1540 Loma Vista Cir	4/28/1972	3/12/2007	1"	Pvc	Marks were good
2914 Easy St	6/25/1990	3/12/2007	1"	Dris	Caped off svc line, not being used
2350 Adobe Rd	11/1/2003	3/17/2007	1"	Dris	Replaced section
2610 Paloma senda	7/1/1985	3/21/2007	1"	Poly	Marks were good
2350 Adobe Rd	11/1/2003	3/21/2007	1"	Dris	Replaced section
1549 Arcadia Blvd	10/28/1975	3/22/2007	Saddle	Saddle	Contractor
2022 Merrill Ln	7/1/1982	3/23/2007	2"	Poly	Replaced section
2290 Shooting Star Dr	2/6/2001	3/26/2007	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	3/26/2007	1"	Dris	Replaced section and temp patched
1950 Talc Rd	9/3/1971	3/26/2007	Nipple	pvc	Ran over meter box
1626 Hwy 95	7/1/1982	3/26/2007	1"	Dris	Replaced section
2108 White Sands Dr	7/1/1967	3/27/2007	1 1/4"	Abs	Replaced section due to roots
2540 Corona Redonda+E881	7/1/1985	3/27/2007	1"	Dris	Replaced section
2555 Corona Redonda	7/1/1985	3/27/2007	1"	Dris	Replaced section
1755 El Cazador	7/1/1985	3/28/2007	1"	Dris	Replaced section, Marks were good
2801 Colibri Ct	7/1/1985	3/28/2007	2"	Pvc	Replaced section, Marks were good
2289 Silverthorne Dr	12/16/2003	3/30/2007	1"	Dris	Replaced section to Branch
1886 Arcadia Pl	10/28/1975	4/2/2007	1"	Pvc	Svc broke while exposed
2570 Corona redondo	7/1/1985	4/2/2007	1"	Dris	Replaced section
1540 Loma Vista Cir	4/28/1972	4/4/2007	1"	Pvc	Hit Marked were good
1703 Turquoise Rd	8/15/1966	4/4/2007	1"	Pvc	Bad backfill
2644 Calle De Mercado	7/1/1985	4/5/2007	1"	Vanguard	replaced section
2866 Grandhill Rd	9/15/1990	4/12/2007	1"	Dris	Clamp
623 Mead Ln	7/1/1967	4/13/2007	1"	Pvc	Replaced section of svc
1834 Ramar Rd	9/3/1971	4/17/2007	1"	Pvc	Replaced tee and valves
2820 Via Corona		4/18/2007	1"	Dris	Marks were good
1227 Esclarla Pl	10/28/1975	4/18/2007	1"	Pvc	Marks were good

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1850 Rio Vista Dr	9/3/1971	4/19/2007	1"	Pvc	Somebody ran over meter box, Replaced tee
2350 Adobe Rd	11/1/2003	4/19/2007	1"	Dris	Clamp, 2 Feet from Branch
771 Riverfront Dr	2/5/1973	4/21/2007	Nipple	Nipple	Replaced nipple and valve
1789 Corona Vista Dr	7/1/1985	4/23/2007	1"	Dris	Svc line not marked
1443 Verano Dr	10/28/1975	4/23/2007	1"	Pvc	Broke compaction road
1850 Arcadia Cir	10/28/1975	4/24/2007	1"	Pvc	Said glue came apart
1605 Taylor Rd	4/10/1974	4/24/2007	1"	Copper	Replaced tee and valves
2390 Acoma Dr	7/1/1972	4/25/2007	2"	Pvc	Clamp
2549 Highland Trl	2/3/2000	4/27/2007	1"	Dris	Replaced section
1730 Corona Vista Dr	7/1/1985	4/27/2007	1"	Dris	Replaced section
1709 Williams Dr	9/3/1971	4/30/2007	1"	Pvc	Replaced tee and valves
1795 Colorado Blvd	7/1/1967	5/1/2007	Nipple	Nipple	Replaced nipple and valve
1457 Arena Dr	3/2/1971	5/1/2007	1"	pvc	Replaced section to svc valve
2659 Avenida Grande	7/1/1985	5/1/2007	1"	Dris	Replaced section
2893 Country Hills Rd	9/15/1990	5/1/2007	1"	Dris	Replaced section
2544 Highland Trl	2/3/2000	5/1/2007	1"	Dris	Replaced section to branch
2984 Ranch house Rd	4/15/2003	5/2/2007	1"	Dris	Replaced section
1353 Baseline Rd	6/23/1968	5/2/2007	1"	J-M	Replaced branch And valves
2327 Silverthorne Dr	5/30/2006	5/3/2007	1"	Dris	Replaced section
2350 Adobe Rd	11/1/2003	5/3/2007	1"	Dris	Clamp
801 Gemstone Rd	12/5/1973	5/4/2007	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	5/4/2007	1"	Dris	Replaced section
2483 Sundown Cir	2/3/2000	5/5/2007	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	5/7/2007	1"	Dris	Replaced section
2350 Adobe Rd	11/1/2003	5/7/2007	1"	Dris	Replaced section to Branch
676 Sea Spray Dr	7/1/1959	5/7/2007	Nipple	Nipple	Replaced nippple and valve
395 Santa Maria Rd	7/1/1967	5/8/2007	1"	Saddle	Replaced plugged saddle and svc
877 Hancock Rd	12/5/1973	5/9/2007	1"	Dris	Clamp
1515 Lincoln Ln	1/19/1966	5/9/2007	1"	Pvc	Replaced 90' and valve
1919 Castle Berry Ln	7/1/1967	5/10/2007	1"	Dris	Replaced section
1487 Colina Dr	10/28/1975	5/11/2007	1"	Pvc	Replaced section
2952 Country Club Dr	5/9/1980	5/11/2007	1"	Pvc	Replaced 90' off of saddle
1440 Horseshoe Ln	7/1/1960	5/14/2007	1"	Pvc	Replaced section
1424 Monte Vista Dr	3/2/1971	5/14/2007	1"	Pvc	Replaced tee and valves
2362 Acoma Dr	7/1/1972	5/15/2007	1"	Dris	Replaced section
1487 Colina Dr	10/28/1975	5/16/2007	1"	Pvc	Replaced section
2350 Adobe Rd	11/1/2003	5/17/2007	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	5/18/2007	1"	Dris	Replaced section
2885 Grandhill Rd	9/15/1990	5/18/2007	1"	Dris	Replaced section
1666 Rio Vista Dr	9/3/1971	5/18/2007	1"	Dris	Replaced tee
1419 Colina Dr	10/28/1975	5/19/2007	1"	Pvc	Replaced tee, valves, Section of pipe
1465 Talc Rd		5/20/2007	1"	Pvc	Replaced tee and valves
2451 Camino Del Rio	7/2/1971	5/21/2007	1"	Copper	Clamp
1649 Talc Rd	6/2/1970	5/23/2007	1"	Pvc	Replaced tee and valves
665 Roadrunner Dr	3/17/1975	5/23/2007	Saddle	Saddle	Replaced plugged saddle
2874 Cresthill Dr	9/15/1990	5/24/2007	1"	Dris	Replaced section
2319 Merrill Ln	7/1/1982	5/25/2007	3/4"	Dris	Replaced section
2311 Merrill Ln	7/1/1982	5/28/2007	1"	Dris	Replaced section
1947 Riverbend Cir West	7/1/1967	5/29/2007	1"	Tuff Tube	Replaced tee and valves
2350 Adobe Rd	11/1/2003	5/29/2007	1"	Dris	Replaced section
1845 Arcadia PL	10/28/1975	5/30/2007	1"	Pvc	Replaced section
Clubhouse & Riverfront	6/23/1968	5/30/2007	1"	Dris	Replaced section
1898 Arena Dr	9/3/1971	5/31/2007	3/4"	Pvc	Replaced bushing and valve

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2620 Via Corona	7/1/1985	6/1/2007	1"		Clamp
2359 Taos Dr	7/1/1972	6/1/2007	1"	Dris	Replaced section and tee with valves
2208 Edgewood Dr	7/1/2008	6/5/2007	1"	Dris	Replaced section
1829 Rio Vista Dr	9/3/1971	6/5/2007	1"	Pvc	Replaced bushing and valve
1605 Taylor Rd	4/10/1974	6/6/2007	1"	Copper	Replaced pack joint
2326 Silverthorne Dr	5/30/2006	6/6/2007	1"	Dris	Replaced section to tee
2335 Shooting Star Dr	2/6/2001	6/6/2007	1"	Dris	Replaced section
1379 Rubel Ln	6/23/1968	6/7/2007	1"	Dris	Clamp
2196 Bermuda Dr	7/1/1967	6/8/2007	Nipple	Pvc	Replaced nipple and valve
588 Citrus St	4/10/1974	6/8/2007	1"	Dris	Replaced section
2350 Adobe Rd	11/1/2003	6/9/2007	1"	Dris	Replaced section
795 Riverfront Dr	2/5/1973	6/10/2007	1"	Pvc	Replaced tee and valves
2395 Juneberry Cir	8/31/2000	6/12/2007	1"	Dris	Replaced section
1793 Dorado Dr	10/28/1975	6/14/2007	1"	Pvc	Bad backfill Cracked tee by main
935 Swan dr	7/1/1967	6/15/2007	1"	Pvc	Replaced nipple mater valve and lock
547 Terrace Dr	4/10/1974	6/15/2007	1"	Dris	Replaced section
2587 Majestic Way	1/22/2001	6/18/2007	1"	Dris	Replaced section from tee
1808 Paseo Del Rio		6/18/2007	Nipple	Nipple	Replaced nipple and valve
1134 Avienda Del Sol	12/31/1967	6/19/2007	3/4"	Pvc	Replaced Bushing
1996 Riverbend Cir East	7/1/1967	6/20/2007	3/4"	Tuff Tube	Clamp
301 Santa Maria Ave	7/1/1967	6/21/2007	1"	Copper	Clamp/Abandon old svc
1139 Avienda De La Golodrina	12/31/1967	6/21/2007	Nipple	Nipple	Greg broke nipple trying to change out ball valve
2350 Adobe Rd	11/1/2003	6/22/2007	1"	Dris	Replaced section
2424 Paseo Cisne	7/2/1971	6/23/2007	1"	Dris	Replaced section
2316 Ryan Way	3/31/1997	6/24/2007	1"	Dris	Replaced section
1739 Corona Vista Dr	7/1/1985	6/26/2007	Nipple	Nipple	Replaced nipple
2335 Half moon Way	6/30/1999	6/26/2007	1"	Dris	Replaced section
2506 Valley Vista	7/1/1985	6/29/2007	1"	Dris	Replaced section
Montana Ridge		6/30/2007	1"	Mueller	Mueller came off
Canyon & Laredo	11/5/1990	6/30/2007	1"	RP	Somebody stole RP
3001 Easy St		6/30/2007	1"	RP	Somebody stole RP
2659 Avenida Grande	7/1/1985	6/30/2007	1"	Dris	Clamp
Friendly Pl		7/1/2007	2"	RP	Sombody stole RP
2394 Columbus Dr	4/15/2003	7/1/2007	1"	Dris	Replaced section
2592 Sonoran Desert Dr	5/8/2007	7/1/2007	3/4"	Dris	Crack on Coupler
2530 Corona Redondo	7/1/1985	7/2/2007	1"	Dris	Hose clamp
1854 Corondo Dr	7/1/1959	7/3/2007	3/4"	Pvc	Removed plug to install valve for new svc
1454 Orilla Ln	3/2/1971	7/3/2007	1"	Pvc	Replaced tee and valves
2784 Paloma Senda	7/1/1985	7/5/2007	1"	Dris	Replaced section
1800 Clubhouse Dr	7/1/1979	7/5/2007	2"	Copper	Redo 2" pack joint installed incorrectly by Chad
2381 Seminole Dr	7/1/1972	7/5/2007	1"	Dris	Clamp
2343 W Riverview Cir	7/1/1972	7/6/2007	Nipple	Nipple	Replaced nipple and valve
1159 Camino Cv	5/9/1980	7/6/2007	Nipple	Nipple	Replaced nipple and valve
2350 Adobe Rd	11/1/2003	7/6/2007	1"	Dris	Replaced section
3021 Milano Dr	7/1/2008	7/6/2007	1"	Dris	Replaced section
2226 Edgewood Dr	7/1/2008	7/6/2007	1"	Dris	Replaced section
2322 Silverthorne Dr	5/30/2006	7/7/2007	1"	Dris	Replaced section
383 Santa Maria Rd	7/1/1967	7/9/2007	1"	Pvc	Replaced tee and valves
1545 Dorado Dr	3/2/1971	7/9/2007	Nipple	Nipple	Replaced nipple and valve
845 Riverview Dr	7/1/1967	7/9/2007	1"	Pvc	Replaced tee and valves
2350 Adobe Rd	11/1/2003	7/10/2007	1"	Dris	Replaced section

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2350 Adobe Rd	11/1/2003	7/10/2007	2"	Dris	Redid Blow off/ Pipe split
2533 Fox Run Ln	5/9/1996	7/10/2007	1"	Dris	Replaced section
1159 Camino Cv	5/9/1980	7/10/2007	Nipple	Nipple	DS, Overtighten fixed second time
2500 Canyon Rd	2/24/1992	7/11/2007	1"	Dris	Replaced section
2390 Bluebird Ln	8/31/2000	7/16/2007	1"	Dris	Replaced section
815 Swan Dr	7/1/1967	7/16/2007	Nipple	Nipple	
916 Brill Dr	12/29/1980	7/17/2007	3/4"	Copper	Replaced bad Flair Fitting
2080 Sweetwater Dr	7/1/1967	7/18/2007	3/4"	Pvc	Flock valve and meter
1080 Ramar Rd	10/31/1968	7/18/2007	3/4"	Pvc	Replaced 90'
1347 Hummington Pl	7/1/1960	7/19/2007	3/4"	Pvc	Replaced coupling
2513 Majestic Way	1/22/2001	7/19/2007	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	7/20/2007	1"	Dris	Hose Clamp
Sixth & Palm	7/1/1970	7/21/2007	1"	Pvc	Replaced section
2779 Paloma Senda	7/1/1985	7/22/2007	1"	Dris	Replaced section
2878 Hillview Dr	11/27/1986	7/23/2007	1"	Dris	Replaced section
2319 Merrill Ln	7/1/1982	7/23/2007	3/4"	Dris	Replaced section
1365 Lincoln Ln	6/23/1968	7/24/2007	1"	Dris	Replaced from meter
2326 Hummingbird Ln	7/1/1960	7/28/2007	1"	Pvc	Replaced tee and valves
2408 Castle Rock Cir	7/1/1967	7/29/2007	3/4"	Tuff Tube	
2894 Country Club Plz	5/9/1980	7/29/2007	1"	Pvc	Replaced tee and valves
2319 Shooting Star Dr	2/6/2001	7/30/2007	1"	Dris	Replaced section
2383 Juneberry Cir	8/31/2000	7/30/2007	1"	Dris	Replaced section
2419 Juneberry Cir	12/10/1996	7/31/2007	1"	Dris	Replaced section
2319 Merrill Ln	7/1/1982	7/31/2007	3/4"	Dris	Replaced section
2568 Highland Trl	2/3/2000	8/1/2007	1"	Dris	Replaced section
1707 Rio Vista Bay	9/3/1971	8/1/2007	1"	Pvc	Replaced tee and valves
3000 Ranch house Rd	7/1/2008	8/2/2007	1"	Dris	Replaced section to branch
1209 Baseline Rd	1/16/1968	8/3/2007	1"	Pvc	Replaced tee and valves
1957 Diamond Dr	7/1/1967	8/3/2007	3/4"	Pvc	Replaced 90' and valve
2893 Country Hills Rd	9/15/1990	8/3/2007	1"	Dris	Replaced section to meters
2736 Paloma Senda	7/1/1985	8/3/2007	1"	Dris	Replaced section
2850 Hillview Dr	11/27/1986	8/3/2007	1"	Dris	Replaced section
743 Swan Dr	7/1/1967	8/6/2007	Nipple	Nipple	
1626 Hwy 95	7/1/1982	8/6/2007	1"	Dris	
2559 Sundown Cir	2/3/2000	8/7/2007	1"	Dris	Replaced section
2334 Silverthorne Dr	5/30/2006	8/9/2007	1"	Dris	Replaced section
1180 Baseline Rd	1/16/1968	8/10/2007	Nipple	Nipple	Replaced nipple and valve
2663 Paloma Senda	7/1/1985	8/11/2007	1"	Dris	
1739 Corona Vista DR	7/1/1985	8/13/2007	1"	Dris	Replaced section
986 Riverfront Dr	4/28/1972	8/14/2007	1"	Pvc	Replaced tee and vales
2174 Whitewater Way	7/1/1967	8/15/2007	Saddle	Saddle	Replaced saddle
1167 Buena Vista	12/31/1967	8/16/2007	3/4"	Pvc	Replaced flowlock and valve
1720 Rio Vista Dr	9/3/1971	8/16/2007	1"	Pvc	Replaced tee and valves
2885 Grandhill Rd	9/15/1990	8/20/2007	1"	Dris	Replaced section
2698 Avenida Grande	7/1/1985	8/20/2007	1"	Dris	Replaced section
2541 Via Arroyo	12/31/1967	8/20/2007	Nipple	Nipple	Replaced nipple and valve
1180 Baseline Rd	1/16/1968	8/20/2007	Nipple	Nipple	Replaced nipple and valve
2989 Rolling Hills Rd		8/20/2007	3/4"	Dris	Replaced section
2878 Cresthill Dr	9/15/1990	8/23/2007	1"	Dris	Replaced section
2313 Merrill Ln	7/1/1982	8/23/2007	1"	Dris	Replaced section
2404 Castle Rock Cir	7/1/1967	8/24/2007	3/4"	Tuff Tube	Clamp
2056 Colorado Blvd	7/1/1967	8/24/2007	3/4"	Copper	Replaced saddle and found hole in svc in middle of street
2350 Adobe Rd	11/1/2003	8/27/2007	1"	Dris	Replaced section

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2952 Camino Del Rio	5/9/1980	8/28/2007	Nipple	Nipple	Replaced tee and valves
590 Holly St	4/10/1974	8/28/2007	1"	Dris	
2426 Bluebird Ln	5/19/2000	8/28/2007	1"	Dris	
389 Santa Maria Rd	7/1/1967	8/29/2007	1"	Pvc	Replaced flow lock and valve
Colorado Dr		8/30/2007	2"	Dris	Turned off corp
1990 Riverbend Cir East	7/1/1967	8/30/2007	1"	Tuff Tube	Clamp
Colorado Dr		9/1/2007	2"	Dris	Corp would not turn off all the way replaced corp
1423 Tonto Dr	5/7/1969	9/2/2007	1"	Pvc	Replaced tee and valves
1876 Del Norte Dr	7/1/1967	9/5/2007	1"	Dris	Replaced section
694 Honeysuckle Rd	7/1/1959	9/6/2007	3/4"	Dris	Hose clamp
801 Gemstone Rd	12/5/1973	9/6/2007	1"	Dris	Replaced section
1145 Agate Ave	2/21/1966	9/7/2007	1"	Dris	Replaced section
1341 Verano Dr	10/28/1975	9/7/2007	Nipple	Nipple	Replaced nipple and valve
2854 Mourning Dove Cir	6/6/1996	9/7/2007	3/4"	Dris	Replaced section
2350 Adobe Rd	11/1/2003	9/8/2007	1"	Dris	Clamp
2584 Avenida Grande	7/1/1985	9/8/2007	1"	Dris	Clamp
1474 Arena Dr	3/2/1971	9/8/2007	Nipple	Nipple	
2335 Half moon Way	6/30/1999	9/10/2007	1"	Dris	Replaced section
2985 Carefree Dr	4/15/2003	9/10/2007	1"	Dris	Replaced section
2995 Coyote Run	6/30/1999	9/10/2007	1"	Dris	Replaced section
1772 Sea Breeze Ln	7/1/1959	9/11/2007	1"	Pvc	Replaced tee and valve for new meter
855 Hancock Rd	12/5/1973	9/11/2007	1'	Dris	Replaced section
1713 Rio Vista Bay	9/3/1971	9/11/2007	1'	Pvc	Replaced 90'
1180 Baseline Rd	1/16/1968	9/12/2007	Nipple	Nipple	
613 Hancock Rd	2/26/1992	9/13/2007	1'	Dris	Muller blew off
791 Ramar Rd	2/5/1973	9/14/2007	1"	Pvc	Tighten fitting
201 Riverfront Dr	7/1/1980	9/14/2007	Nipple	Nipple	Tighten fitting
Paseo Lane		9/14/2007	2"	Dris	Hose clamp
1663 Alta Vista Dr	6/2/1970	9/19/2007	1"	Pvc	Replaced tee and valves
3015 Hwy 95	6/25/1990	9/21/2007	1"	pvc	
1545 Dorado Dr	3/2/1971	9/22/2007	Nipple	Nipple	
530 Terrace Dr	4/10/1974	9/23/2007	1"		Hose clamp
2630 Paloma Senda	7/1/1985	9/24/2007	1"	Dris	
2500 Valley Vista	7/1/1985	9/24/2007	1"	Dris	
2301 Merrill Ln	7/1/1982	9/24/2007	1"	Dris	Hose Clamp
201 Riverfront Dr	7/1/1980	10/4/2007	2"	Pvc	Replaced 90'
2620 Via Corona	7/1/1985	10/4/2007	1"	Dris	Hose clamp
1650 Trane Rd	7/1/1988	10/5/2007	Nipple	Nipple	
423 Whitewater Dr	7/1/1967	10/6/2007	Nipple	Nipple	
2420 Merrill Ln	7/1/1982	10/6/2007	3/4"	Dris	Hose Clamp
2585 Highland Trl	2/3/2000	10/7/2007	1"	Dris	
2854 Majestic Way		10/8/2007	1"	Dris	Clamp
2651 Calle De Mercado	7/1/1985	10/8/2007	1"	Dris	
2513 Majestic Way	1/22/2001	10/8/2007	1"	Dris	Clamp
2556 Majestic Way	1/22/2001	10/9/2007	1"	Dris	Replaced section
2878 Cresthill Dr	9/15/1990	10/16/2007	1"	Dris	
2546 Sundown Cir	2/3/2000	10/18/2007	1"	Dris	Rock on svc line
430 Santa Maria Rd	7/1/1967	10/18/2007	Nipple	Nipple	
1963 Rio Grande Rd	7/1/1967	10/18/2007	3/4"	Poly	Hose clamp
658 Stahlman Dr	3/17/1975	10/18/2007	Nipple	Nipple	Replaced section
1725 El Cazador	7/1/1985	10/18/2007	1"	Dris	
2584 Avenida Grande	7/1/1985	10/20/2007	1"	Dris	

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2663 Avenida Grande	7/1/1985	10/21/2007	1"	Dris	
2860 Camino del Rio	5/9/1980	10/23/2007	1"	Pvc	Replaced tee and valves
1181 Linda Vista Dr	12/31/1964	10/24/2007	1 1/2"	Pvc	
1694 Yale Dr	3/17/1975	10/26/2007	Nipple	Pvc	Replaced tee and Valves
1932 Robson Cir E	7/1/1967	10/28/2007	3/4"	Poly	Replaced section
1497 Palma Rd	4/14/1968	10/31/2007	1"	Dris	Capped off line at Grade
2261 Merrill Ln	7/1/1982	11/1/2007	3/4"	Dris	
2537 Valley Vista	7/1/1985	11/2/2007	1"	Dris	
2022 Merrill Ln	7/1/1982	11/3/2007	3/4"	Pvc	
1395 Zircon Dr	7/6/1982	11/6/2007	1"	Pvc	Replaced tee and valves
1619 Emerald Dr	6/7/1966	11/8/2007	1"	Pvc	Replaced tee and valves
1752 Arriba Dr		11/8/2007	2"	Pvc	Replaced section, Bad Blue stake mark
1470 Luna Lane	3/2/1971	11/9/2007	1"	Pvc	Flow Lock new mtr valve
1695 River Gardens Dr	2/5/1973	11/20/2007	1"	Pvc	Replaced tee and valves
2371 Stallion Rd	7/1/1960	11/26/2007	1"	Abs	
2014 Colorado Blvd	7/1/1967	11/26/2007	3/4"	Tuff Tube	Rebuilt Tee and replaced valves
1848 Merced Dr	7/1/1967	11/30/2007	3/4"	Pvc	Replaced nipple and valve
1016 Merrill Ct	7/1/1982	11/30/2007	3/4"	Dris	
2668 Paloma Senda	7/1/1985	12/1/2007	1"	Dris	Replaced section
1641 Balsa Rd	9/3/1971	12/5/2007	1"	Pvc	Bad Backfill
2350 Adobe Rd	11/1/2003	12/5/2007	1"	Dris	Clamp
501 Palo Verde	4/10/1974	12/10/2007	1"	CTS	
1689 Brill Way	12/29/1980	12/12/2007	1"	Copper	Replaced tee and rebuilt svc
755 Sea Spray Dr	7/1/1959	12/12/2007	1"	Pvc	Replaced tee and rebuilt svc
1836 Artesia Dr	7/1/1967	12/13/2007	1 1/4"	Pvc	Replaced tee and rebuilt svc
2110 Santa Cruz Ave	7/1/1967	12/13/2007	3/4"	Poly	Clamp
2705 Paloma Senda	7/1/1985	12/16/2007	1"	Dris	Clamp
845 Riverview Dr	7/1/1967	12/21/2007	1"	Pvc	
2383 Juneberry Cir	8/31/2000	12/26/2007	1"	Dris	
2131 Whitewater Dr	7/1/1967	12/28/2007	3/4"	Tuff Tube	
1839 Rio Vista Dr	9/3/1971	12/31/2007	1"	Pvc	Replaced tee and valves
1903 Sea Breeze Ln	7/1/1959	1/2/2008	3/4"	Copper	Tighten Fitting
2533 Fox Ridge Ln	5/9/1996	1/3/2008	3/4"	Dris	
212 Lee Ave	7/1/1970	1/3/2008	1"	Poly	Hose Clamp
2391 Frst St	7/1/1970	1/4/2008	2"	Pvc	Replaced 90'
2126 Hersomsa Dr	7/1/1967	1/7/2008	3/4"	Pvc	
2350 Adobe Rd	11/1/2003	1/7/2008	1"	Dris	
1918 Monterey Dr	7/1/1967	1/7/2008	1"	Pvc	Replaced tee and valves
2350 Adobe Rd	11/1/2003	1/9/2008	1"	Dris	
2617 Sanctuary Dr	12/12/2004	1/11/2008	3/4"	Nipple	Crack at nipple
2458 Wilder Dr	9/1/2004	1/12/2008	1"	Dris	Clamp
2449 Paseo Cisne	7/2/1971	1/12/2008	1"	Dris	Clamp
2082 Balboa Dr	7/1/1967	1/14/2008	1"	Nipple	
1600 Ramar Rd	6/2/1970	1/14/2008	1"	Pvc	Rebuilt svc to fit 2 5/8 Meters
2541 Majestic Way	1/22/2001	1/14/2008	1"	Dris	Replaced section
1290 Verano Dr	10/28/1975	1/15/2008	Nipple	Nipple	
2149 Del Rey Dr	7/1/1967	1/15/2008	Nipple	Nipple	
2502 Junegerry Cir	5/19/2000	1/16/2008	1"	Dris	Cut out bad section
859 Stahlman Dr	2/5/1973	1/17/2008	Nipple	Nipple	
918 Palo Verde	4/28/1972	1/17/2008	1"	Pvc	
1460 Rio Vista Dr	3/2/1971	1/24/2008	1"	poly, Pvc	
2620 Corona Vista Dr	7/1/1985	1/24/2008	1"	Dris	
2737 Paloma Senda	7/1/1985	1/25/2008	1"	Dris	Clamp

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615 Palo Verde	3/17/1975	1/26/2008	Nipple	Pvc	Replaced nipple and valve
528 Roadrunner Dr	4/10/1974	1/28/2008	1"	poly	
1376 Winkler Ln	6/23/1968	1/29/2008	BV		
1792 Diamond Dr	7/1/1967	1/30/2008	1 1/4"	Abs	Rebuilt svc
2155 Del Rey Dr	7/1/1967	1/30/2008	BV		
2610 Paloma Senda	7/1/1985	1/31/2008	1"	Dris	Clamp
2859 Cresthill Dr	9/15/1990	1/31/2008	1"	Dris	
1755 El Cazador	7/1/1985	1/31/2008	1"	Dris	Hose Clamp
2625 Sanctuary Dr	12/12/2004	1/31/2008	1"	Dris	Bad install at corp
1714 Hilltop Cir	6/2/1970	2/2/2008	Nipple	Nipple	
1830 Corona Vista Dr	7/1/1985	2/4/2008	1"	Dris	Clamp
2554 Valley Vista	7/1/1985	2/4/2008	3/4"	Brass	Contractor ran over
1792 Diamon Dr	7/1/1967	2/4/2008	1"	Pvc	Rebuilt svc
1867 Riverside Dr	7/1/1967	2/5/2008	Nipple	Nipple	Was ran over by a tractor
1051 Zircon Ln	8/22/1967	2/7/2008	1"	Abs	Replaced tee and vales
1070 Sahauro Dr	7/1/1955	2/7/2008	Nipple	Nipple	
1725 Agate Cir	8/15/1966	2/7/2008	Nipple	Nipple	
1625 Paloma Senda Dr		2/7/2008	1"	Dris	
1520 Opal Ln	10/31/1968	2/8/2008	Mtr riser	Riser	Replaced Riser
1386 Trane Rd	6/23/1968	2/8/2008	Nipple	Nipple	
Stone Bridge		2/8/2008	2" Corp	Corp	Blow off corp came off
2610 Paloma Senda	7/1/1985	2/9/2008	1"	Dris	
3018 Milano Dr	7/1/2008	2/11/2008	1"	Dris	Bad Install
1215 Silica Dr	1/16/1968	2/11/2008	BV	BV	
1495 Tonto Dr	5/7/1969	2/11/2008	Riser	Riser	Replaced riser
821 Gemstone Ave	12/5/1973	2/11/2008	1"	Dris	
528 Harbor Dr	7/1/1967	2/12/2008	BV	BV	
2897 Country Club Dr	5/9/1980	2/12/2008	BV	BV	
1579 Lincoln Ln	1/19/1966	2/13/2008	BV	BV	
1782 Coronado Dr	7/1/1959	2/13/2008	Nipple	Nipple	
1602 Camino Ct	5/9/1980	2/13/2008	Nipple	Nipple	
2515 Whispering Ridge Dr	3/31/1997	2/13/2008	1"	Dris	
1051 Zircon Ln	8/22/1967	2/13/2008	Nipple	Nipple	
1859 Rio Vista Dr	9/3/1971	2/18/2008	1"	Pvc	
2350 Adobe Rd	11/1/2003	2/19/2008	1"	Dris	Clamp
625 Palo Verde	3/17/1975	2/19/2008	1"	Pvc	
855 Palo Verde	2/5/1973	2/19/2008	BV	BV	
2937 Camino Del Rio	5/9/1980	2/19/2008	1"	Pvc	Adaptor broke at saddle
2878 Cresthill Dr	9/15/1990	2/25/2008	1"	Dris	Clamp
2625 Via Arroyo	12/31/1964	2/26/2008	1"	Dris	Hose clamp
2891 Hillview Dr	11/27/1986	2/27/2008	1"	Dris	
2878 Cresthill Dr	9/15/1990	2/28/2008	1"	Dris	
2631 Discovery Rd	6/3/2005	3/3/2008	1"	Dris	
2315 Shooting Star Dr	2/6/2001	3/3/2008	1"	Dris	Clamp
1771 Tejon Dr	7/1/1959	3/3/2008	3/4"	Pvc	Replaced valve and nipple
896 Roadrunner Dr	4/28/1972	3/3/2008	1"	Pvc	Replaced valve and nipple
1491 Bryan Dr	6/23/1968	3/4/2008	1"	Pvc	
2898 Rollings Hills Rd		3/5/2008	3/4"	Dris	Clamp
1693 Agate Cir	8/15/1966	3/6/2008	3/4"	Pvc	extended meter 1 Foot
2635 Calle De Mercado	7/1/1985	3/6/2008	1"	Dris	Clamp
1017 Mobile Ln	7/1/1955	3/10/2008	3/4"	BV	
975 Seafair Dr	7/1/1967	3/12/2008	3/4"	BV	
1795 Granada Dr	7/1/1959	3/14/2008	3/4"	BV	
1841 Artesia Dr	7/1/1967	3/15/2008	3/4"	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1735 El Cazador	7/1/1985	3/17/2008	1"	Dris	Bad Backfill
2613 Avenida Grande	7/1/1985	3/17/2008	1"	Dris	
2894 Cresthill Dr	9/15/1990	3/17/2008	1"	Dris	Clamp
2059 Sweetwater Dr	7/1/1967	3/18/2008	3/4"	pvc	
2346 Half moon Way	6/30/1999	3/18/2008	1"	Dris	
448 Marina Blvd	1/10/1989	3/19/2008	3/4"	Dris	
2687 Avenida Grande	7/1/1985	3/19/2008	1"	Dris	
2859 Cresthill Dr	9/15/1990	3/19/2008	1"	Dris	Clamp
1970 Monterey Dr	7/1/1967	3/20/2008	Riser	Riser	
383 Santa Maria Rd	7/1/1967	3/21/2008	1"	Pvc	
740 Tiger Lilly Ln	7/1/1959	3/21/2008	Nipple	Nipple	
1909 Monterey Dr	7/1/1967	3/21/2008	Nipple	Nipple	
2438 Bluebird Ln	5/19/2000	3/22/2008	1"	Dris	
2293 Laura Crest Dr		3/24/2008	1"	Dris	
2960 Silver Creek Rd		3/24/2008	BV	BV	
1836 El Monte Dr	7/1/1967	3/26/2008	BV	Bv	
2096 Balboa Dr	7/1/1967	3/26/2008	BV	BV	
1763 El Cazador	7/1/1985	3/29/2008	1"	Dris	Clamp
1448 Rio Vista Dr	3/2/1971	3/29/2008	Nipple	Nipple	
2135 Bermuda Dr	7/1/1967	3/30/2008	BV	BV	
1167 Avienda De LA Goldrina	12/31/1967	3/30/2008	1"	Pvc	Tee and valves
1689 Brill Way	12/29/1980	3/31/2008	1"	Brass	Replaced bushing
2350 Adobe Rd	11/1/2003	3/31/2008	1"	Dris	Clamp
1906 Orca Ln	7/1/1967	4/1/2008	Nipple	Nipple	
505 Roadrunner Dr	4/10/1974	4/5/2008	1"	Poly	Clamp
2377 Junegerry Cir	8/31/2000	4/5/2008	1"	Dris	Clamp
2350 Half moon Way	6/30/1999	4/5/2008	1"	Vanguard	Tighten clamp
1621 Arena Dr	3/2/1971	4/6/2008	3/4"	MTR Coupl	
989 Stahlman Dr	4/28/1972	4/7/2008	1"	Pvc	Replaced tee and valves
1728 Toro Dr	9/3/1971	4/7/2008	1"	Pvc	Replaced bushing
1346 Terrace Dr	6/23/1968	4/7/2008	1"	Pvc	Replaced tee and valves
1033 Citrus St	10/31/1968	4/9/2008	Riser	Riser	Replaced meter riser
1315 Hwy 95		4/9/2008	1"	Dris	Clamp
1335 Baseline Rd	6/23/1968	4/10/2008	BV	BV	Contractor ran over
2663 Paloma Senda	7/1/1985	4/10/2008	1"	Dris	Replaceed section
1479 Orilla Ln	3/2/1971	4/13/2008	1"	Pvc	Replaced nipple and valve
2022 Merrill Ln	7/1/1982	4/16/2008	2"	PVC	Replaced part of manifold
1501 Arena Ct	10/28/1975	4/16/2008	1"	Pvc	Replaced bushing on tee
1095 Baseline Rd	1/16/1968	4/17/2008	Nipple	Nipple	
1960 Baseline Rd	4/14/1968	4/17/2008	BV	BV	
2350 Adobe Rd	11/1/2003	4/17/2008	1"	Dris	Clamp.
2231 Sunrise Trl	9/24/1998	4/18/2008	1"	Dris	
2247 Clearwater Dr	7/1/1967	4/21/2008	Riser	Riser	Hose clamp
1345 Navajo Dr	7/1/1972	4/21/2008	1"	Pvc	Replaced 90'
2653 Sanctuary Dr	12/12/2004	4/22/2008	1"	Dris	
3017 Sienna Dr	7/1/2008	4/23/2008	1"	Dris	Bad install at meter branch
3003 Sienna Dr		4/23/2008	1"	Dris	Bad install at corp
2534 Camino Del Rio	7/1/1969	4/24/2008	3/4"	Pvc	leak at 90'
2426 Merrill Ave	7/1/1982	4/24/2008	3/4"	Dris	Replaced section
2334 Silverthorne Dr	5/30/2006	4/24/2008	1"	Dris	
914 Safari Dr	7/1/1967	4/28/2008	Nipple	Nipple	
2437 Junegerry Cir	12/10/1996	4/29/2008	1"	Dris	Clamp
1680 Sierra Vista Dr	6/2/1970	4/29/2008	Nipple	Nipple	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2616 Via Arroyo	7/1/1972	4/30/2008	BV	BV	
744 Swan Dr	7/1/1967	4/30/2008	BV	BV	
1167 Camino CV	5/9/1980	4/30/2008	BV	BV	
1429 Mirada Dr	5/7/1969	4/30/2008	BV	BV	
1370 Mirada Dr	5/7/1969	4/30/2008	BV	BV	
1609 Villa Ln	10/31/1968	4/30/2008	BV	BV	
1126 Cibique Dr		4/30/2008	BV	BV	
1680 Sierra Vista Dr	6/2/1970	5/2/2008	Nipple	Nipple	
1225 Baseline Rd	1/16/1968	5/2/2008	BV	BV	
1150 Citrus St	10/31/1968	5/2/2008	Riser	Riser	
1947 Coral Isle Dr	7/1/1959	5/3/2008	Nipple	Nipple	
895 Palo Verde	4/28/1972	5/7/2008	BV	BV	
682 Palo Verde	3/17/1975	5/7/2008	1"	PVC	Replaced tee and valves
1323 Terrace Dr	6/23/1968	5/7/2008	Nipple	Nipple	
2960 Silver Creek Rd		5/8/2008	BV	BV	
522 Hancock Rd	7/1/1967	5/8/2008	Nipple	Nipple	
1614 Arena Dr	3/2/1971	5/8/2008	1"	Pvc	Replaced tee and valves
2367 Stardust Dr	5/17/2003	5/9/2008	1"	Dris	Replaced section
2330 Silverthorne Dr	5/30/2006	5/9/2008	1"	Vanguard	Clamp
1867 Riverside Dr	7/1/1967	5/9/2008	3/4"	Poly	Capped off broken tee
895 San Juan Cir	7/1/1967	5/9/2008	3/4"	Pvc	
2752 Paloma Senda	7/1/1985	5/11/2008	1"	Dris	Clamp
2037 Gregg Ln	7/1/1967	5/13/2008	1"	Pvc	
2350 Adobe Rd	11/1/2003	5/13/2008	1"	Dris	
2336 Half Moon Way	6/30/1999	5/15/2008	1"	Dris	
1574 Trane Rd	1/19/1966	5/15/2008	1"	Abs	Replaced tee and valves
2891 Hillview Dr	11/27/1986	5/16/2008	1"	Dris	
2482 Sundown Cir	2/3/2000	5/16/2008	1"	Dris	
1336 Newberry Dr	7/1/1960	5/17/2008	1"	Pvc	
2640 Discovery Rd	6/3/2005	5/17/2008	1"	Dris	
2737 Springtime Court	6/3/2005	5/17/2008	1"	Dris	Clamp
3058 Sienna Dr	7/1/2008	5/20/2008	1"	Dris	
1922 Merced Dr	7/1/1967	5/20/2008	1"		clamp
1725 Dorado Dr	3/2/1971	5/20/2008	Nipple	Nipple	
2449 Wilder Dr	9/1/2004	5/21/2008	1"	Dris	
608 Stahlman Dr	3/17/1975	5/22/2008	BV	BV	
2512 Camino Del Rio	7/2/1971	5/23/2008	BV	BV	
2350 Adobe Rd	11/1/2003	5/24/2008	1"	Dris	
2262 Merrill Ave	7/1/1982	5/26/2008	3/4"	Dris	Hose Clamp
1540 Trane Rd	1/19/1966	5/26/2008	1"	Tuff Tube	
2350 Adobe Rd	11/1/2003	5/28/2008	1"	Dris	Clamp
2620 Via Corona	7/1/1985	5/28/2008	1"	Dris	
1725 El Cazador	7/1/1985	5/28/2008	1"	Dris	
377 Church St	7/1/1980	5/29/2008	3/4"	Dris	Clamp, Need to replace concrete
1975 Ramar Rd	9/3/1971	6/2/2008	1"	Pvc	Replaced tee and valve
912 Glen Rd	4/28/1972	6/3/2008	Nipple	Pvc	Replaced tee and valve
2687 Calle De Mercado	7/1/1985	6/4/2008	1"	Dris	Clamp,
805 Hancock Rd	12/5/1973	6/5/2008	1"	Dris	
1084 Navajo Dr	7/1/1972	6/6/2008	BV	BV	Angle Valve
1155 Avienda Del Sol	12/31/1967	6/6/2008	Nipple	Nipple	
205 Palm Ave	7/1/1970	6/6/2008	BV	BV	
1791 Riverside Dr	7/1/1967	6/7/2008	1'	Abs	Replaced 90' at corp
2705 Avenida Grande	7/1/1985	6/9/2008	1"	Dris	
1737 Corona Vista Dr	7/1/1985	6/9/2008	1"	Dris	Clamp

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
3028 Sienna Dr	7/1/2008	6/10/2008	1"	Vanguard	Bad Install at corp
1501 Arena Ct	10/28/1975	6/10/2008	1"	Pvc	Replaced 90'
367 Church St	7/1/1980	6/12/2008	BV	BV	
1070 Jocabima Dr	4/28/1972	6/13/2008	BV	BV	
2350 Adobe Rd	11/1/2003	6/13/2008	1"	Dris	
3100 Sienna Dr	7/1/2008	6/16/2008	1"	Dris	
867 Baseline Rd	2/5/1973	6/16/2008	1"	Pvc	Replaced tee and valves
2129 Del Rey Dr	7/1/1967	6/18/2008	BV	BV	
2224 Bermuda Dr	7/1/1967	6/18/2008	BV	BV	
2350 Adobe Rd	11/1/2003	6/18/2008	1"	Dris	Hose clamp
2610 Discovery Rd	12/12/2004	6/19/2008	1"	Dris	
2690 Sanctuary Dr	6/3/2005	6/19/2008	1"	Dris	
310 Nevada Dr	7/1/1967	6/19/2008	3/4"	Dris	
2231 Starflower Trl	9/24/1998	6/19/2008	1"	Dris	
522 Stahlman Dr	4/10/1974	6/20/2008	BV	BV	
1446 Arena Dr	3/2/1971	6/20/2008	BV	BV	
2262 Merrill Ave	7/1/1982	6/20/2008	3/4"	Dris	Hose Clamp
2350 Adobe Rd	11/1/2003	6/20/2008	1"	Dris	Clamp
915 Terrace Dr	4/28/1972	6/21/2008	BV	BV	
2787 Avenida Grande	7/1/1985	6/21/2008	1"	Dris	Clamp
2430 Highland Trl	9/1/2004	6/23/2008	1"	Dris	Clamp
910 Glen Rd	4/28/1972	6/24/2008	3/4"	Pvc	Replaced bushing
2631 Calle De Mercado	7/1/1985	6/24/2008	1"	Dris	
1786 Sea Creek Dr	7/1/1967	6/24/2008	Nipple	Nipple	
1917 Sea Breeze Ln	7/1/1959	6/24/2008	BV	BV	
1957 Merced Dr		6/24/2008	1"	Poly	
1691 Emerald Dr	6/7/1966	6/26/2008	BV	BV	
2705 Avenida Grande	7/1/1985	6/27/2008	1"	Dris	Need to replace
2438 Merrill Ave	7/1/1982	6/27/2008	1"	Dris	
2506 Valley Vista	7/1/1985	6/27/2008	1"	Vanguard	Clamp
1232 Country Club Dr	5/9/1980	6/27/2008	3/4"	Pvc	Replaced tee and valves
1990 Riverbend Cir W	7/1/1967	6/27/2008	1"		Coupling
1095 Copper Dr	7/1/1982	6/29/2008	3/4"	Dris	
915 Glen Rd	4/28/1972	6/30/2008	1"	Bushing	
2247 Riviera Blvd		6/30/2008	1"	Pvc	Redid 1" Meter riser
2685 Sanctuary Dr	12/12/2004	7/1/2008	1"	Dris	
2506 Valley Vista	7/1/1985	7/1/2008	1"	Dris	Clamp
2866 Grandhill Rd	9/15/1990	7/4/2008	1"	Dris	
2611 Rollings Hills Rd	6/3/2005	7/5/2008	1"	Dris	Clamp
2718 Via Arroyo	7/1/1972	7/7/2008	BV	BV	
1284 Riverfront Dr	6/23/1968	7/7/2008	Nipple	Nipple	
2350 Adobe Rd	11/1/2003	7/8/2008	1"	Dris	
355 Church St	7/1/1980	7/9/2008	BV	BV	
1472 Verde Rd	5/7/1969	7/9/2008	1"	Pvc	Replaced tee and valves
1096 Citrus St	10/31/1968	7/9/2008	BV	BV	
1472 Verde Rd	5/7/1969	7/10/2008	3/4'	Pvc	Fitting was over tightened
2610 Paloma Senda	7/1/1985	7/13/2008	1"	Dris	
2749 Springtime Court	6/3/2005	7/13/2008	1"	Dris	
2555 Corona Redonda	7/1/1985	7/13/2008	1"	Dris	Hose clamp
560 Ramar Rd	4/10/1974	7/15/2008	1"	Dris	
1830 Corona Vista Dr	7/1/1985	7/15/2008	1"	Dris	
2262 Merrill Ave	7/1/1982	7/15/2008	1"	Dris	Tighten clamp
911 Harbor Dr	11/1/1990	7/16/2008	3/4"	Pvc	Spliced into svc to make into double
1012 Church St	10/31/1968	7/16/2008	1"	Pvc	Replaced flow lock

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2885 Winchester Dr	5/9/1996	7/17/2008	1"	Dris	
2891 Hillview Dr	11/27/1986	7/17/2008	1"	Dris	Hose clamp
1830 Corona Vista Dr	7/1/1985	7/17/2008	1"	Dris	
1487 Colina Dr	10/28/1975	7/17/2008	BV	BV	
1086 Copper Dr	7/1/1982	7/18/2008	3/4"	Dris	Readjust Clamp
1829 Rio Vista Dr	9/3/1971	7/18/2008	Nipple	Nipple	
1153 Quartz Ave	2/21/1966	7/18/2008	1"	Dris	Clamp
1382 Park Ln	5/7/1969	7/18/2008	BV	BV	
846 Marina Blvd	7/1/1967	7/18/2008	BV	BV	
1967 Sea Breeze Ln	7/1/1959	7/18/2008	BV	BV	Replaced section
969 Skippers CV	7/1/1967	7/19/2008	1"	Abs	
910 Harbor Dr	11/1/1990	7/19/2008	3/4"	Pvc	Replaced tee and valves
2771 Paloma Senda	7/1/1985	7/21/2008	1"	Vanguard	
2728 Silver Creek Rd	7/1/1985	7/21/2008	1"	Dris	
2426 Bluebird Ln	5/19/2000	7/22/2008	1"	Dris	
2705 Paloma senda	7/1/1985	7/22/2008	1"	Vanguard	
2687 Calle De Mercado	7/1/1985	7/22/2008	1"	Vanguard	
2509 Valley Vista	7/1/1985	7/22/2008	1"	Dris	
560 Paseo Del Rio	7/1/1967	7/23/2008	1"	Pvc/Copper	
2385 Junegerry Cir	8/31/2000	7/23/2008	1"	Dris	
2748 Avenida Grande	7/1/1985	7/23/2008	1"	Dris	
3100 Sienna Dr	7/1/2008	7/24/2008	1"	Vanguard	
2350 Adobe Rd	11/1/2003	7/25/2008	1"	Dris	Hose Clamp
586 Stahlman Dr	4/10/1974	7/26/2008	1"	Dris	Hose Clamps
1772 Rio Grande Rd	7/1/1967	7/26/2008	2"	Pvc	Replaced valves and 90'
377 Church St	7/1/1980	7/27/2008	1"	Dris	Cut a bad curve in pipe
1004 Palo Verde Ave	7/1/1955	7/27/2008	3/4"	Pvc	Replaced tee and valves
1784 Tejon Dr	7/1/1959	7/28/2008	BV	BV	
1791 Sea Breeze Ln	7/1/1959	7/28/2008	BV	BV	
1842 Coronel Dr	7/1/1959	7/28/2008	BV	BV	
1004 Palo Verde Ave	7/1/1955	7/29/2008	Nipple	Nipple	
695 Marina Blvd	7/1/1959	7/30/2008	Saddle	Pvc	Abondend svc
2892 Country Club PLZ	5/9/1980	7/31/2008	Bushing	Pvc	
905 Harbor Dr	11/1/1990	7/31/2008	1"	Dris	Relocated mtr box
2250 Hwy 95	6/1/1986	7/31/2008	2'	Pvc	Replaced male adaptor
2625 Via Corona	7/1/1985	8/1/2008	1"	J-M	
2350 Adobe Rd	11/1/2003	8/1/2008	1"	J-M	
3045 Milano Dr	7/1/2008	8/1/2008	1"	J-M	
2471 Sabino Dr	9/1/2004	8/1/2008	1"	J-M	
2736 Avenida Grande	7/1/1985	8/5/2008	1"	Dris	Clamp
310 Marina Blvd	7/1/1967	8/7/2008	BV	BV	
2350 Adobe Rd	11/1/2003	8/7/2008	1"	Dris	
2702 Paloma Senda	7/1/1985	8/7/2008	1"	Dris	Clamp
2542 Valley Vista	7/1/1985	8/7/2008	1'	Dris	
2262 Merrill Ave	7/1/1982	8/7/2008	3/4"	Dris	Clamp
1256 Lause Rd	5/9/1980	8/11/2008	1"	Pvc	Replaced 90'
2338 Silverthorne Dr	5/30/2006	8/12/2008	1"	Dris	
2232 MountainSide Dr	9/24/1998	8/12/2008	1"	Dris	Hose Clamp
1990 Riverbend Cir W	7/1/1967	8/12/2008	1"	Dris	
1100 Copper Dr	7/1/1982	8/14/2008	3/4"	Dris	Hose Clamp
2053 Sweetwater Dr	7/1/1967	8/14/2008	3/4"	pvc	Tighten fitting
2350 Adobe Rd	11/1/2003	8/15/2008	1"	Dris	
2755 Paloma Senda	7/1/1985	8/17/2008	1"	Dris	
2718 Via Arroyo	7/1/1972	8/18/2008	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1085 Chaparral Dr	7/2/1971	8/19/2008	1"	Dris	
2350 Adobe Rd	11/1/2003	8/20/2008	1"	Dris	
1810 Sea Breeze Ln	7/1/1959	8/20/2008	Saddle	Pvc	Replaced glued saddle
2155 Oswood Ln	7/1/1967	8/21/2008	Nipple	Nipple	
1545 Emerald Dr	1/19/1966	8/21/2008	1"	abs	Clamp
1277 Country Club Cir	1/2/1972	8/22/2008	Riser	Riser	
2625 Via Corona	7/1/1985	8/23/2008	1"	Dris	
502 Roadrunner Dr	4/10/1974	8/27/2008	1"	Dris	Clamp
229 Tanglewood Ln	7/1/1967	8/28/2008	1"	Nipple	
1472 Verde Rd	5/7/1969	8/28/2008	1"	Tee	Replaced tee and valves
1373 Baseline Rd	6/23/1968	9/3/2008	1"	Dris	Clamp
1921 Merced Dr	7/1/1967	9/5/2008	1"	Dris	
2232 Edgewood Dr	7/1/2008	9/5/2008	1"	Dris	
2250 Edgewood Dr	7/1/2008	9/7/2008	1"	Dris	
2335 Half Moon Way	6/30/1999	9/7/2008	1"	Dris	
2702 Paloma Senda	7/1/1985	9/7/2008	1"	Dris	
2610 Paloma Senda	7/1/1985	9/7/2008	1'	Dris	
2600 Silver Creek Rd	7/1/1985	9/9/2008	1"	Dris	
1471 Monte Vista Dr	3/2/1971	9/10/2008	BV	Dris	
2655 Calle De Mercado	7/1/1985	9/10/2008	1"	Dris	Clamp
2869 Winchester Dr	5/9/1996	9/11/2008	1"	Dris	
975 Stahlman Dr	4/28/1972	9/11/2008	1"	Pvc	Replaced tee and valves
212 Riverfront Dr	7/1/1980	9/11/2008	3/4"	Dris	
2449 Paseo Cisnie	7/2/1971	9/12/2008	1"	Dris	
2326 Silverthorne Dr	5/30/2006	9/12/2008	1"	Dris	
825 Gemstone Ave	12/5/1973	9/15/2008	BV	BV	
2193 Hwy 95		9/15/2008	1"	Vanguard	Hit By contractor
1751 Silver Vista Dr		9/15/2008	1"	Pvc	Bushing
1830 Corona Vista Dr	7/1/1985	9/19/2008	1"	Dris	
2449 Merrill Ave	7/1/1982	9/21/2008	3/4"	Dris	Clamp
2885 Grandhill Rd	9/15/1990	9/22/2008	1"	Dris	
912 Glen Rd	4/28/1972	9/22/2008	Nipple	Nipple	
1473 Park Ln	7/1/1955	9/22/2008	3/4"		
3094 Sienna Dr	7/1/2008	9/23/2008	1"	Dris	
2442 Bluebird Ln	5/19/2000	9/23/2008	1"	Dris	Clamp
2580 Highland Trl	2/3/2000	9/24/2008	1"	Dris	Hose Clamp
2618 Discovery Rd	12/12/2004	9/24/2008	1"	Dris	
1638 Arena Dr	3/2/1971	9/24/2008	BV	BV	
2350 Adobe Rd	11/1/2003	9/25/2008	1"	Dris	
2114 Balboa Dr	7/1/1967	9/26/2008	BV	BV	
1587 Emerald Dr	1/19/1966	9/26/2008	1"	Tuff Tube	Clamp
2886 Winchester Dr	5/9/1996	9/27/2008	1"	Vanguard	Clamp
2533 Fox Run Ln	5/9/1996	9/28/2008	1"	Vanguard	Clamp
852 Hancock Rd	2/5/1973	9/29/2008	1"	Corp Stop	Replaced corp
La Jolla		9/29/2008	3/4"	Nipple	
3054 Milano Dr	7/1/2008	9/30/2008	1"	Dris	
Mountain Pass & Halfmoon Way	6/30/1999	9/30/2008	1"	Dris	Abondon Service
1705 Trane RD	2/21/1966	10/3/2008	3/4"	Dris	
1359 Lause Rd	7/1/1972	10/3/2008	1/1/2"	Gate Valve	Replaced gate
1166 Hwy 95	7/1/1970	10/3/2008	Nipple	Nipple	
2792 Paloma Senda	7/1/1985	10/5/2008	1"	Dris	
1700 Taylor Rd	4/10/1974	10/6/2008	1"	Dris	Clamp
752 Hancock Rd	7/1/1959	10/6/2008	1"	Copper	Pack joint and Valve

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
840 Safari Dr	7/1/1967	10/7/2008	BV	BV	
950 Palo Verde	4/28/1972	10/7/2008	BV	BV	
1859 Riverside Dr	7/1/1967	10/7/2008	3/4"	Pvc	Flow lock and valve
2191 Riviera Blvd	7/1/1967	10/7/2008	1 1/4"	Abs	Leak and abandon svc
2281 Soaring Eagle Dr	12/16/2003	10/8/2008	1"	Dris	
2422 Highland Trl	9/1/2004	10/8/2008	1"	Dris	
2245 Edgewood Dr	7/1/2008	10/8/2008	1"	Dris	Clamp
905 Turney Dr	4/28/1972	10/8/2008	Nipple	Nipple	
1349 Hancock Rd	2/21/1966	10/9/2008	BV	BV	Replaced angle valve
2449 Paseo Cisne	7/2/1971	10/9/2008	1"	Dris	
2567 Sundown Cir	2/3/2000	10/10/2008	1'	Dris	
2507 Sundown Cir	2/3/2000	10/16/2008	1"	Dris	Bad Install
2298 Pima Ln	7/1/1960	10/16/2008	BV	BV	Angle Valve
1463 Colina Dr	10/28/1975	10/16/2008	BV	BV	
2541 Highland Trl	2/3/2000	10/17/2008	1"	Dris	
1791 Rio Grande Rd	7/1/1967	10/20/2008	BV	BV	
2350 Adobe Rd	11/1/2003	10/21/2008	1"	Dris	
2245 Paseo Del Rio	7/1/1967	10/22/2008	BV	BV	
2748 Avenida Grande	7/1/1985	10/23/2008	1"	Dris	
2506 Valley Vista	7/1/1985	10/23/2008	1"	Copper	Pack Joint was put on wrong
2571 Sundown Cir	2/3/2000	10/26/2008	1"	Dris	Clamp
220 Tanglewood Ln	7/1/1967	10/27/2008	BV	BV	Angle Vale
1201 Country Club CV	5/9/1980	10/28/2008	1"	Pvc	
219 Palm Ave	7/1/1970	10/29/2008	1"	Dris	Clamp
1830 Corona Vista Dr	7/1/1985	10/31/2008	1"	Dris	
2868 Winchester Dr	5/9/1996	11/3/2008	1"	Dris	
2450 Highland Trl	9/1/2004	11/3/2008	1"	Dris	
2730 Paloma senda	7/1/1985	11/3/2008	1"	Dris	
2620 Via Corona	7/1/1985	11/3/2008	1"	Vanguard	Two Clamps
2251 Edgewood Dr	7/1/2008	11/4/2008	1"	Dris	
1101 Copper Ln	7/1/1982	11/7/2008	3/4"	Dris	Clamp
1626 Winters Cir		11/7/2008	BV	BV	
2022 Merrill Ln	7/1/1982	11/11/2008	2"	Pvc	Leak at Tee Manifold
1201 Country Club CV	5/9/1980	11/11/2008	Nipple	Nipple	
2614 Discovery Rd	12/12/2004	11/11/2008	1"	Dris	
1225 Hancock Rd	2/21/1966	11/12/2008	1 1/2"	Abs	Abondon Svc line
1236 Baseline Rd	1/16/1968	11/13/2008	Nipple	Nipple	
2239 Ventura Dr	7/1/1967	11/13/2008	BV	BV	
2342 Acoma Pl	7/1/1972	11/13/2008	BV	BV	
1990 Riverbend Cir E	7/1/1967	11/14/2008	1"	Dris	Clamp
890 Hancock Rd	7/1/1959	11/20/2008	BV	BV	
2350 Adobe Rd	11/1/2003	11/21/2008	1"	Dris	
2068 Santa Cruz Ave	7/1/1967	11/21/2008	3/4"	Pvc	Found old Flow lock leaking
2775 Silver Creek Rd	7/1/1985	11/24/2008	1"	Pvc	Contractor broke our side
2898 Grandhill Rd	9/15/1990	11/24/2008	3/4"	Dris	Clamp
1050 Hwy 95	7/1/1970	11/25/2008	1"	Copper	JGI, Broke our svc line
2633 Discovery Rd	6/3/2005	12/2/2008	1"	Dris	Clamp
2015 Kingston Dr	7/1/1967	12/3/2008	BV	BV	
901 Palo Verde	4/28/1972	12/3/2008	Nipple	Nipple	
1034 Hwy 95	7/1/1970	12/3/2008	1"	Copper/Pvc	Cut svc out of the way for contractor
1038 Hwy 95	7/1/1970	12/3/2008	1"	Dris	Cut svc out of the way for contractor
1813 Arrowhead Dr	7/1/1967	12/4/2008	Nipple	Nipple	Self inflected
1428 Winters Cir	6/23/1968	12/4/2008	BV	BV	
193 Lee Ave	7/1/1970	12/4/2008	1"	Copper Pvc	Cut svc out of the way for contractor

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2100 Clearwater Dr	7/1/1967	12/8/2008	1"	Pvc	Replaced tee and valves
3082 Sienna Dr	7/1/2008	12/11/2008	1"	Dris	Bad install ,Split at corp
Summit Dr & Summit Cir	4/14/1968	12/17/2008	1"	J&M	City hit svc line while grading road
1937 Morning Glory TR	7/1/1959	12/17/2008	BV	BV	
2960 Silver Creek Rd		12/18/2008	Nipple	Nipple	Replaced nipple and valve
2350 Adobe Rd	11/1/2003	12/19/2008	1"	Dris	
2139 Oswood Ln	7/1/1967	12/19/2008	1"	Dris	
1637 Ramar Rd	6/2/1970	12/22/2008	Nipple	Nipple	
640 Palo Verde	3/17/1975	12/22/2008	BV	BV	
839 Riverfront Dr	2/5/1973	12/22/2008	Nipple	Nipple	
723 Mimosa Trl	7/1/1959	12/26/2008	BV	BV	
2239 Edgewood Dr	7/1/2008	12/29/2008	1"	Dris	
1919 Castle Berry Ln	7/1/1967	12/29/2008	1"	Dris	
2477 Frontier Ln	9/1/2004	12/29/2008	1"	Dris	
1178 Buena Vista	12/31/1964	12/31/2008	Nipple	Nipple	
664 Stahlman Dr	3/17/1975	1/1/2009	Nipple	Nipple	Replace tee
2633 Paloma Senda	7/1/1985	1/1/2009	1"	J&M	Hose clamp
2630 Paloma Senda	7/1/1985	1/1/2009	1"	Vanguard	Clamp
2530 Corona Redondo	7/1/1985	1/3/2009	1"	Dris	Spliced in fitting
1495 Church Dr	5/7/1969	1/5/2009	Riser	Riser	Replaced Mtr Riser
1104 Hwy 95	7/1/1970	1/6/2009	1"	Copper	Tighten fitting
680 Shady nook Cir		1/7/2009	Nipple	Nipple	Replaced nipple and valve
2272 MountainSide Dr	9/24/1998	1/8/2009	1"	Dris	Clamp
1396 Tuthill Dr	6/23/1968	1/8/2009	Nipple	Nipple	Replaced nipple and valve
2561 Joshua Tree Ln	5/8/2007	1/10/2009	1"	Dris	Clamp
1221 Puerta Vista	12/31/1964	1/10/2009	1 1/4"	Abs	Replaced section and 90'
2350 Adobe Rd	11/1/2003	1/10/2009	1"	Vanguard	
2350 Adobe Rd	11/1/2003	1/12/2009	1"	Vanguard	Cut out bad bend
2771 Paloma Senda	7/1/1985	1/12/2009	1"	Dris	
1963 W Riverbend Cir	7/1/1967	1/13/2009	1"	Dris	Clamp
420 Marina Blvd	1/10/1989	1/13/2009	3/4"	Brass	Replaced brass bushing
2718 Paloma Senda	7/1/1985	1/15/2009	1"	Vanguard	Replaced section
1121 Puerta Vista		1/16/2009	1"	Pvc	90' Broke
807 Terrace Dr	2/5/1973	1/17/2009	BV	BV	Broke by customer
1179 Camino CV	5/9/1980	1/19/2009	Nipple	Nipple	
1648 Lakeside Dr	10/31/1968	1/20/2009	Nipple	Nipple	
2094 Buccaneer Dr	7/1/1967	1/20/2009	BV	BV	
2352 Castle Rock Cir	7/1/1967	1/20/2009	3/4"	Tuff Tube	Clamp
1875 Montclair Dr	7/1/1967	1/20/2009	BV	BV	
2301 Merrill Ave	7/1/1982	1/25/2009	1"	Dris	Clamp
1470 Luna Ln	3/2/1971	1/26/2009	1"	PVC	Customer ran over box, replaced valve
336 Nevada Dr	7/1/1967	1/28/2009	3/4"	Tuff Tube	Clamp
2323 Acoma Pl	7/1/1972	1/28/2009	BV	BV	Angle Valve
2239 Hermosa Dr	7/1/1967	1/28/2009	BV	BV	
2336 Acoma Pl	7/1/1972	1/28/2009	BV	BV	Angle Valve
2912 Camino Del Rio	5/9/1980	1/30/2009	1"	Pvc	Male Adaptor into steel Saddle
2676 Calle De Mercado	7/1/1985	2/2/2009	BV	BV	
3084 Hwy 95	2/10/1986	2/10/2009	1"	Dris	Clamp
2998 Coyote Run	2/6/2001	2/13/2009	1"	Vanguard	Clamp
3107 Sienna Dr	7/1/2008	2/16/2009	1"	Vanguard	Clamp
2350 Adobe Rd	11/1/2003	2/16/2009	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	2/18/2009	1"	Dris	Replaced section
1016 Hwy 95	7/1/1970	2/18/2009	1"	Copper	Tighten Fitting

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1830 Corona Vista Dr	7/1/1985	2/21/2009	1"	Dris	Jeff hit our main with Backhoe installed 15" clamp
2357 Taos Dr	7/1/1972	2/21/2009	1"	Dris	Clamp
3045 Milano Dr	7/1/2008	2/22/2009	1"	Dris	Clamp
199 Palm Ave	7/1/1970	2/23/2009	1"	Dris	Clamp
1391 Winkler In	6/23/1968	2/24/2009	BV	BV	
1579 Clover Ln	10/31/1968	2/24/2009	Nipple	Nipple	
2350 Adobe Rd	11/1/2003	2/28/2009	1"	Dris	Clamp
2868 Winchester Dr	5/9/1996	2/28/2009	1"	Dris	
2285 Shooting Star Dr	2/6/2001	2/28/2009	1"	Dris	
527 Stahlman Dr	4/10/1974	3/2/2009	BV	BV	Angle Valve
2350 Adobe Rd	11/1/2003	3/2/2009	1"	Dris	Clamp
2743 Springtime CT	6/3/2005	3/3/2009	1"	Vanguard	two Clamps
2513 Majestic Way	1/22/2001	3/3/2009	1"	Dris	Clamp
2466 Wilder Dr	9/1/2004	3/3/2009	1"	Dris	Clamp
1176 Camino CV	5/9/1980	3/3/2009	BV	BV	
1750 Rio Vista Bay		3/5/2009	Nipple	Nipple	
1586 country Club Way	5/9/1980	3/5/2009	1"	Pvc	Replaced saddle/ male adapt
972 Harbor Dr	11/1/1990	3/5/2009	BV	BV	
2521 Majestic Way	1/22/2001	3/5/2009	1"	Dris	Clamp
630 Swan Dr	7/1/1967	3/5/2009	Nipple	Nipple	
2250 Edgewood Dr	7/1/2008	3/7/2009	1"	Dris	Clamp
1494 Riverfront Dr	6/23/1968	3/9/2009	BV	BV	
2301 Merrill Ave	7/1/1982	3/10/2009	1"	Dris	Clamp
377 Church ST	7/1/1980	3/11/2009	1"	Dris	Clamp
419 Sea Spray Dr	7/1/1967	3/12/2009	1"	Abs	Rebuilt Tee
1687 Bluebonnet Blvd	3/17/1975	3/12/2009	1"	Pvc	Replaced tee and valves
2350 Adobe Rd	11/1/2003	3/14/2009	1"	Dris	Clamp
2870 Grandhill Rd	9/15/1990	3/17/2009	1"	Dris	Two Clamps
1066 Hancock Rd	4/28/1972	3/17/2009	1"	Pvc	Replaced male adapt
2565 Via Arroyo	12/31/1967	3/18/2009	1 1/2"	Pvc	
2108 Hermosa Dr	7/1/1967	3/19/2009	BV	BV	
645 Honeysuckle Rd	7/1/1959	3/19/2009	Nipple	Nipple	
1310 Ramar Rd	1/19/1966	3/23/2009	Nipple	Nipple	
2340 Half moon Way	6/30/1999	3/23/2009	1"	Vanguard	Clamp
2779 Avenida Grande	7/1/1985	3/23/2009	1"	Vanguard	Clamp
136 Hacienda Dr	1/10/1972	3/23/2009	1 1/4"	Abs	Rebuilt part of service line
2478 Wilder Dr	9/1/2004	3/24/2009	1"	Dris	Clamp
175 Lee Ave	7/1/1970	3/25/2009	1"	Pvc	Rebuilt tee and valves
783 Ramar Rd	2/5/1973	3/25/2009	BV	BV	
2350 Adobe Rd	11/1/2003	3/25/2009	1"	Dris	Clamp
584 Marina Blvd	7/1/1967	3/27/2009	1"	Pvc	Tee and valve
2170 Balboa Dr	7/1/1967	3/28/2009	1"	Abs	Clamp
2306 Kaibab Dr	7/1/1960	3/28/2009	Riser	Riser	Replaced riser rebuilt Cust side
2170 Balboa Dr	7/1/1967	3/28/2009	1"	Abs	Svc split after repair, shut svc line off
479 Marina Blvd	7/1/1967	3/30/2009	3/4"	Dris	Clamp
1798 Clearwater Dr	7/1/1967	3/30/2009	3/4"		Changing meter, cust side started leaking,,Jeff fixed
1065 Papago Dr	7/1/1972	3/31/2009	BV	BV	
1024 Ramar Rd	10/31/1968	3/31/2009	1"	Pvc	Replaced tee and valves
1345 Navajo Dr	7/1/1972	4/1/2009	1"	Pvc	Replaced section
2561 Joshua Tree Ln	5/8/2007	4/5/2009	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	4/7/2009	Nipple	Nipple	
Sixth & Palm	7/1/1970	4/8/2009	1"	Abs	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2513 Via Arroyo	7/1/1969	4/9/2009	1 1/2"	Pvc	Replaced tee and valves
2301 Merrill Ave	7/1/1982	4/10/2009	1"	Dris	Clamp
1424 Mirada Dr	5/7/1969	4/13/2009	1"	Pvc	Replaced flow lock,,, Hit mismaked gas main
976 Church St	4/28/1972	4/14/2009	BV	BV	
985 Citrus st	4/28/1972	4/14/2009	Nipple	Pvc	
2653 Sanctuary Dr	12/12/2004	4/14/2009	1"	Vanguard	Clamp
2615 Rolling Hills	6/3/2005	4/14/2009	1"	Vanguard	Clamp
870 Glen Rd	2/5/1973	4/14/2009	BV	BV	
985 Stahlman Dr	4/28/1972	4/14/2009	BV	BV	
191 Tedford Ave	1/10/1972	4/15/2009	1"	Pvc	Bank Caved in from Tonto Supply
2530 Valley Vista	7/1/1985	4/15/2009	1"	Copper	Leaking Fitting
2350 Adobe Rd	11/1/2003	4/16/2009	1"	Dris	Clamp
985 Citrus st	4/28/1972	4/16/2009	Nipple	Nipple	
2336 Half moon way	6/30/1999	4/17/2009	1"	Vanguard	Clamp
1294 Arcadia Blvd	10/28/1975	4/17/2009	BV	BV	
1221 Puerta Vista	12/31/1964	4/17/2009	Nipple	Nipple	
2877 Winchester Dr	5/9/1996	4/18/2009	1"	Dris	Clamp
2613 Avenida Grande	7/1/1985	4/19/2009	1"	Dris	
1787 Colorado Blvd	7/1/1967	4/20/2009	BV	BV	
1098 Copper Ln	7/1/1982	4/22/2009	3/4"	Dris	
2890 Cresthill Dr	9/15/1990	4/22/2009	BV	BV	
1927 W Riverbend Cir	7/1/1967	4/22/2009	3/4"	Tuff Tube	
2243 Sunrise Trl	9/24/1998	4/23/2009	1"	Dris	Clamp
343 Riverfront Dr	7/1/1980	4/23/2009	1"	Copper	Hit unsed svc line/ Caped off
1720 Williams Dr	9/3/1971	4/25/2009	1"	Pvc	Replaced tee and valves
1737 Corona Vista Dr	7/1/1985	4/27/2009	1"	Copper	Adjust leaky fitting
1469 Terrace Dr	6/23/1968	4/27/2009	BV	BV	
2752 Paloma Senda	7/1/1985	4/27/2009	BV	BV	
2854 Cresthill Dr	9/15/1990	4/27/2009	Nipple	Nipple	
427 Malibu Dr	7/1/1967	4/28/2009	Riser	Riser	Replaced meter riser
1142 Hwy 95	7/1/1970	4/28/2009	1"	Copper	Hit by Tonto Supply/ Mismark
152 Hacienda Dr	1/10/1972	4/29/2009	1 1/4"	Abs	
2854 Cresthill Dr	9/15/1990	5/1/2009	Nipple	Nipple	Replaced nipple and valve
2250 Starflower Trl	5/29/1997	5/2/2009	1"	Dris	Clamp
1800 Clubhouse Dr	7/1/1979	5/5/2009	1 1/2"	BV / 2"	Replaved BV & MTR/ Installed 2"
1798 Hualapai dr	7/1/1967	5/5/2009	Nipple	Nipple	
1800 Clubhouse Dr	7/1/1979	5/5/2009	2"	Copper	Replaced section
1800 Clubhouse Dr	7/1/1979	5/5/2009	1 1/2"	BV	Replaced 2" Ball Valve
3089 Milano Dr	7/1/2008	5/6/2009	1'	Vanguard	
2399 5th Street	7/1/1970	5/6/2009	3/4"	Dris	Installed copper from main
1110 Highway 95	7/1/1970	5/6/2009	1"	Copper	Replaced section
1168 Agate Ave	2/21/1966	5/8/2009	3/4"	Dris	Clamp
2525 Majestic Way	1/22/2001	5/8/2009	1"	Dris	Clamp
1628 Lynn Dr	3/17/1975	5/8/2009	1"	Pvc	Replaced tee and valves
528 Roadrunner Dr	4/10/1974	5/8/2009	Nipple	Nipple	Replaced nipple due to Palm Tree roots
3003 Hwy 95	2/10/1986	5/8/2009	1"	Dris	Clamp
2630 Sanctuary Dr	12/12/2004	5/9/2009	1"	Dris	
2270 Silverthorne Dr	12/16/2003	5/9/2009	1"	Dris	Two Clamps
3054 Milano Dr	7/1/2008	5/11/2009	1"	Vanguard	
2350 Adobe Rd	11/1/2003	5/11/2009	1"	Dris	Clamp
900 San Juan	7/1/1967	5/12/2009	BV	BV	
2070 Plaza Dr	7/1/1967	5/13/2009	1'	Pvc	replaced 90'

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1681 Bluebonnet Blvd	3/17/1975	5/14/2009	Nipple	Nipple	
1762 Hwy 95	7/1/1979	5/14/2009	Riser	Riser	Hose clamp on 1" Riser
2422 Highland Trl	9/1/2004	5/14/2009	1"	Dris	Clamp
2533 Majestic Way	1/22/2001	5/14/2009	1"	Dris	Clamp
1861 Rivera Blvd	1/26/1987	5/15/2009	BV	BV	
2579 Majestic Way	1/22/2001	5/18/2009	1"	Dris	Clamp
3077 Sienna Dr	7/1/2008	5/19/2009	1"	Vanguard	Clamp
736 Morrow Dr	7/1/1967	5/19/2009	BV	BV	
2561 Joshua Tree Ln	5/8/2007	5/20/2009	1"	Vanguard	
1367 Ripple Dr		5/20/2009	1"	Abs	
1000 Hwy 95	7/1/1970	5/21/2009	3/4"	Copper	
1086 Hwy 95	7/1/1970	5/21/2009	1"	Copper	
2413 Ripple Dr	7/1/1970	5/21/2009	1"	Abs	
2427 Ripple Dr	7/1/1970	5/21/2009	1"	Abs	
2401 Ripple Dr	7/1/1970	5/21/2009	1"	Abs	
2262 Sunrise Trl	9/24/1998	5/22/2009	1"	Dris	Clamp
2633 Discovery Rd	6/3/2005	5/22/2009	1"	Vanguard	
2336 Half Moon Way	6/30/1999	5/22/2009	1"	Vanguard	Clamp
2436 Topanga Dr	7/1/2008	5/22/2009	1"	Dris	Clamp
217 Riverfront Dr	7/1/1980	5/23/2009	1"	Dris	Clamp
2674 Sanctuary Dr	12/12/2004	5/25/2009	1"	Dris	
2181 Del Rey Dr	7/1/1967	5/26/2009	Riser	Riser	
551 Rivera Blvd	7/1/1967	5/27/2009	Saddle	Saddle	Replaced saddle
2479 Ripple Dr	7/1/1970	5/27/2009	1"	Abs	
1389 Hancock Cir	2/21/1968	5/28/2009	3/4"	Copper	Tighten Fitting
1016 Ramar Rd	10/31/1968	5/28/2009	3/4"	Pvc	Replaced 90'
1672 Ramar Rd	6/2/1970	5/28/2009	Nipple	Nipple	
2650 Sanctuary Dr	12/12/2004	5/29/2009	1"	Dris	Clamp
2258 Sunrise Trl	9/24/1998	5/29/2009	1"	Dris	Clamp
526 Ramar Rd	2/26/1992	5/29/2009	1"	Dris	Clamp
620 Citrus st	4/10/1974	5/29/2009	1"	Dris	Clamp
2415 Ripple Dr	7/1/1970	5/29/2009	1"	Abs	Flow lock & Valve
1448 Rio Vista Dr	3/2/1971	5/30/2009	1"	Pvc	Replaced section
1448 Rio Vista Dr	3/2/1971	5/30/2009	1"	Pvc	
1579 Paige Dr	4/10/1974	6/1/2009	BV	BV	
1583 Paige Dr	4/10/1974	6/1/2009	1"	Dris	Clamp
2899 Hillview Dr	11/27/1986	6/1/2009	1"	Vanguard	Clamp
2990 Coyote Run	6/30/1999	6/1/2009	1"	Vanguard	Clamp
2995 Coyote Run	6/30/1999	6/1/2009	1"	Dris	Clamp
2333 Soaring Eagle Dr	5/8/2002	6/1/2009	1"	Dris	Clamp
2389 Juneberry Cir	8/31/2000	6/2/2009	1"	Dris	Clamp
2365 Bluebird Ln	8/31/2000	6/2/2009	1"	Dris	Clamp
2376 Rio Dr	7/1/1970	6/2/2009	1"	Dris	
2357 Castle Rock Cir	7/1/1967	6/3/2009	3/4"	Tuff Tube	Clamp
2357 Castle Rock Cir	7/1/1967	6/3/2009	3/4"	Tuff Tube	Clamp
1883 Surf and Sand Dr	7/1/1959	6/4/2009	1"	Abs	Replaced flowlock and valve
753 Morrow Dr	7/1/1967	6/5/2009	1 1/4"	Abs	Broke main line valve while shutting down
2892 Huntington Ln	5/9/1996	6/5/2009	1"		Clamp
2454 Highland Trl	9/1/2004	6/5/2009	1"		Clamp
562 Roadrunner Dr	4/10/1974	6/5/2009	1"	Dris	Clamp
2953 Camino Del Rio	5/9/1980	6/6/2009	3/4"	Pvc	Replaced 90'
971 Church St	4/28/1972	6/8/2009	BV	BV	
2322 Merrill Ave	7/1/1982	6/8/2009	3/4"	Dris	Clamp

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
353 Krueger Ln	7/1/1970	6/8/2009	1"	Dris	
2607 Rolling Hills	6/3/2005	6/9/2009	1"	Vanguard	Clamp
2650 Sanctuary Dr	12/12/2004	6/9/2009	1"	Dris	Clamp
2933 Camino Del Rio	5/9/1980	6/9/2009	1"	Pvc	Replaced saddle and corp, Broke at male adaptor
1370 Verde Dr	5/7/1969	6/10/2009	1"	Pvc	Replaced 90' and valve
1674 Alta Vista Ln	6/2/1970	6/10/2009	Nipple	Nipple	
1896 Artesia Dr	7/1/1967	6/10/2009	BV	BV	
1564 Paige Dr	4/10/1974	6/10/2009	BV	BV	
1651 Talc Way	9/3/1971	6/10/2009	BV	BV	
125 Long Ave		6/11/2009	1 1/2"	Pvc	Replace 90' and valve
1390 Tonto Dr	5/7/1969	6/12/2009	Nipple	Nipple	
361 Harbor Pl	7/1/1967	6/13/2009	1"	Tuff Tube	Clamp
1016 Ramar Rd	10/31/1968	6/13/2009	Nipple	Nipple	
2523 Sundown Cir	2/3/2000	6/13/2009	1"	Dris	
2457 Valley Vista		6/14/2009	1"	Vanguard	Clamp
1860 Del Norte Dr	7/1/1967	6/16/2009	BV	BV	Replaced angle Valve
1580 Camino Ct	5/9/1980	6/17/2009	1"	Pvc	Replaced saddle and corp, Broke at male adaptor
2442 Topanga Dr	7/1/2008	6/17/2009	1"	Vanguard	Clamp
859 Hancock Rd	12/5/1973	6/17/2009	1"	Dris	Clamp
1335 Hummingbird Pl	7/1/1960	6/18/2009	3/4"	Brass	Replaced meter coupling
2293 Desert Forest Ln	5/30/2006	6/19/2009	1"	Dris	Clamp
2484 Topanga Dr		6/20/2009	1"	Dris	Replaced section
586 Stahlman Dr	4/10/1974	6/20/2009	1"	Dris	two Clamps
2654 Sanctuary Dr	12/12/2004	6/22/2009	1"	Dris	Clamp
2281 Shooting Star Dr	2/6/2001	6/22/2009	1"	Dris	Replaced section
1136 Highway 95	7/1/1970	6/22/2009	1"	Copper	Tighten Fitting
1122 Highway 95	7/1/1970	6/22/2009	Nipple	Nipple	Replaced nipple and valve
377 Churst St	7/1/1980	6/23/2009	1"	Dris	Clamp
3012 Milano Dr	7/1/2008	6/24/2009	1"	Vanguard	Clamp
2730 Miracle Mile Rd	6/1/1986	6/24/2009	1"	Dris	replaced section at corp
2455 Corona Redondo		6/24/2009	BV	BV	
2592 Majestic Way	1/22/2001	6/25/2009	1"	Dris	Replaced section
2259 Merrill Ave	7/1/1982	6/26/2009	1"	Dris	Replaced half of svc line
1350 Newberry Dr	7/1/1960	6/27/2009	3/4"	Tuff Tube	Clamp
1762 Highway 95	7/1/1979	6/27/2009	Riser	Riser	Meter riser, Hose clamp
1620 Balsa Rd	9/3/1971	6/28/2009	3/4"	Pvc	Replaced bushing
2350 Adobe Rd	11/1/2003	6/29/2009	1"	Dris	Clamp
1674 Taylor Rd	4/10/1974	6/29/2009	BV	BV	Replaced two Ball Valves
602 Ramar Rd	4/10/1974	6/30/2009	BV	BV	Replaced two Ball Valves
818 Ramar Rd	2/5/1973	6/30/2009	BV	BV	
743 Swan Dr	7/1/1967	6/30/2009	BV	BV	Replaced broken valve. Customer was charged
1461 Terrace Dr	6/23/1968	6/30/2009	BV	BV	
2710 Sanctuary Dr	6/3/2005	6/30/2009	1"	Vanguard	Clamp
586 Stahlman Dr	4/10/1974	7/1/2009	1"	Dris	Clamp
2313 Merrill Ave	7/1/1982	7/1/2009	1"	Pvc	Replaced bushing
2262 Merrill Ave	7/1/1982	7/1/2009	1"	Dris	Clamp
2529 Majestic Way	1/22/2001	7/1/2009	1"	Dris	Clamp
2321 Soaring Eagle Dr	5/8/2002	7/1/2009	1"	Vanguard	Clamp
2641 Discovery Rd	6/3/2005	7/4/2009	1"	Dris	Two Clamps
1232 Baseline Rd	1/16/1968	7/4/2009	Nipple	Nipple	Replaced nipple and valve
2301 Soaring Eagle Dr	5/8/2002	7/6/2009	1"	Dris	Clamp

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2623 Rolling Hills	6/3/2005	7/6/2009	1"	Vanguard	Clamp
2020 Silver Creek Rd	7/1/1994	7/8/2009	2"	Dris	Clamp
606 Church St	3/17/1975	7/8/2009	1"	Dris	Clamp
2280 Merrill Ave	7/1/1982	7/9/2009	3/4"	Dris	Clamp
1479 Sunset Ln	7/1/1972	7/9/2009	BV	BV	
2078 Del Rey Dr	7/1/1967	7/10/2009	1"	Dris	Clamp
2587 Majestic Way	1/22/2001	7/10/2009	1"	Dris	Clamp
2443 Bluebird Ln	5/19/2000	7/11/2009	1"	Dris	Clamp
2586 Highland Trl	2/3/2000	7/11/2009	1"	Dris	Clamp
2663 Paloma Senda	7/1/1985	7/11/2009	1"	Dris	Replaced section
1667 Topanga Dr		7/15/2009	1"	Vanguard	Replaced section
2209 Coronado Dr	7/1/1967	7/15/2009	1"	Pvc	Replaced nipple and Valve
1734 Taylor Rd	4/10/1974	7/15/2009	1'	Dris	Clamp
1967 Hwy 95	6/23/1968	7/15/2009	1"	Dris	
1381 Paradise Ln	7/1/1955	7/16/2009	1"	Vanguard	Clamp
859 Holly St	2/5/1973	7/16/2009	1"	Pvc	Replaced tee and valves
1940 Merced Dr	7/1/1967	7/16/2009	Nipple	Nipple	Replaced nipple and valve
2259 Merrill Ave	7/1/1982	7/17/2009	1"	Dris	Replaced half of svc line
2899 Hillview Dr	11/27/1986	7/20/2009	1"	Dris	Clamp
2325 Quail Run	7/1/1960	7/21/2009	1"	Grey Abs	
1010 Hwy 95	7/1/1970	7/21/2009	Nipple	Nipple	
2083 Balboa Dr	7/1/1967	7/22/2009	1"	Dris	Tighten clamp
1417 Trane Rd	6/23/1968	7/22/2009	Riser	Riser	Replaced meter riser
2588 Majestic Way	1/22/2001	7/22/2009	1"	Dris	Clamp
1809 Colorado Blvd	7/1/1967	7/24/2009	3/4"	Pvc	Replaced coupling
1921 Castle Berry Ln	7/1/1967	7/24/2009	1"	Dris	Clamp
2490 Highland Trl	2/3/2000	7/26/2009	1" & 2"	Dris	Two clamp, Two leaks, 1 on 1" & 2" svc line. Same trench
2799 Paloma Senda	7/1/1985	7/27/2009	1"	Dris	
1540 Trane Rd	1/19/1966	7/27/2009	BV	BV	
2262 Merrill Ave	7/1/1982	7/27/2009	3/4"	Dris	
1375 Sahauro Dr	7/1/1955	7/27/2009	BV	BV	
2307 Merrill Ave	7/1/1982	7/27/2009	1"	Pvc	Replaced valve and nipple
2990 Coyote Run	6/30/1999	7/27/2009	1"	Vanguard	
957 Coral Reef Dr	1/20/1999	7/27/2009	BV	BV	
1909 Corral Reef		7/28/2009	1"	Abs	
855 Sea Spray Dr	7/1/1959	7/29/2009	BV	BV	Replaced angle Valve
1962 Coloardo Blvd	7/1/1967	7/29/2009	BV	BV	Replaced valve and had to rebild cust side plumbing
522 Riverfront Dr	4/10/1974	7/29/2009	1"	Dris	Clamp
2795 Paloma Senda	7/1/1985	7/30/2009	1"	Dris	Clamp
2380 Hwy 95	4/6/1999	7/31/2009	1"	Dris	Replaced failed fitting
1570 Turquoise Rd	6/2/1970	7/31/2009	Nipple	Nipple	Replaced nipple and valve
1868 El Dorado Dr	7/1/1967	7/31/2009	BV	BV	
2116 Santa Cruz Ave	7/1/1967	7/31/2009	BV	BV	
2566 Valley Vista	7/1/1985	8/2/2009	1"	Vanguard	Installed section of Copper
1379 Rubel Ln	6/23/1968	8/3/2009	1"	Dris	Clamp
2383 Juneberry Cir	8/31/2000	8/4/2009	1"	Pvc	Had to fix cust side plumbing, Bad angle from Svc replacement
1945 Riviera Blvd	7/1/1959	8/4/2009	1"	Dris	Gas company hit, Unknown
954 Sandy Cv	7/1/1967	8/5/2009	Nipple	Nipple	Replaced nipple and valve
1947 W Riverbend Cir	7/1/1967	8/5/2009	Nipple	Nipple	Flow lock and valve
432 Santa Maria Rd	7/1/1967	8/5/2009	BV	BV	Flow lock and valve
1945 Colorado Blvd	7/1/1967	8/5/2009	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1629 Lynn Dr	3/17/1975	8/5/2009	BV	BV	
2312 Ryan Way	3/31/1997	8/7/2009	1"	Dris	Clamp
2365 Bluebird Ln	8/31/2000	8/8/2009	1"	Dris	Clamp
2310 Silverthorne Dr	12/16/2003	8/8/2009	1"	Dris	Clamp
1220 Mohave Dr	12/31/1964	8/10/2009	Nipple	Nipple	
2426 Topanga Dr	7/1/2008	8/12/2009	1"	Vanguard	Clamp
2665 Sanctuary Dr	12/12/2004	8/13/2009	1"	Dris	Clamp
2426 Highland Trl	9/1/2004	8/13/2009	1"	Dris	Replaced section
2636 Avenida Grande	7/1/1985	8/14/2009	BV	BV	Replaced mtr riser and small section of pipe
2367 Merrill Ave	7/1/1982	8/14/2009	4" MTR	Jeff	Galv plug broke off meter
731 Morrow Dr	7/1/1967	8/15/2009	1"	Pvc	Reaplced tee and valves
813 Hancock Rd	12/5/1973	8/17/2009	BV	BV	
839 Riverfront Dr	2/5/1973	8/17/2009	1"	Pvc	Replace tee and valve
877 Hancock Rd	12/5/1973	8/17/2009	3/4"	Dris	Clamp
1940 Merced Dr	7/1/1967	8/17/2009	1"	Dris	Replaced section
2270 Silverthorne Dr	12/16/2003	8/18/2009	1"	Dris	Clamp
1463 Park Ln	7/1/1955	8/19/2009	BV	BV	
2759 Country Club Dr	5/9/1980	8/19/2009	Nipple	Nipple	
825 Gemstone Ave	12/5/1973	8/20/2009	1"	Dris	Replaced section
1762 Hwy 95	7/1/1979	8/21/2009	1"	Riser	Installed Hose clamp
964 Bahma Cv	7/1/1967	8/21/2009	1"	Abs	Replaced section next to tee
2548 Majestic Way	1/22/2001	8/22/2009	1"	Dris	Clamp
2520 Majestic Way	1/22/2001	8/22/2009	1"	Dris	Clamp
1545 Dorado Dr	3/2/1971	8/23/2009	Nipple	Nipple	
1800 Clubhouse Dr	7/1/1979	8/24/2009	Nipple	Nipple	Replaced 1 1/2" Nipple going to IRRIG Meter
1008 Hwy 95		8/24/2009	1"	Coupler	Replaced Brass Tee and Valves
1775 Coronado Dr	7/1/1959	8/25/2009	1"	Dris	Clamp
2466 Wilder Dr	9/1/2004	8/26/2009	1"	Dris	Clamp
Hillview & BHC parkway	11/27/1986	8/26/2009	2"	Dris	Svc is scheduled to be replaced
2350 Adobe Rd	11/1/2003	8/28/2009	1"	Dris	Clamp
839 Riverfront Dr	2/5/1973	8/28/2009	1"	Pvc	Replaced tee and valves
1716 Willimas Dr	9/3/1971	8/28/2009	1"	Pvc	Replaced tee and valves
2678 Sanctuary Dr	12/12/2004	8/29/2009	1"	Dris	Replaced section
1776 Arrowhead	7/1/1967	8/31/2009	BV	BV	
3107 Sienna Dr	7/1/2008	8/31/2009	1"	Vanguard	Clamp
2358 Taos Dr	7/1/1972	8/31/2009	1"	Dris	Clamp
1769 Coronado Dr	7/1/1959	9/1/2009	Nipple	Nipple	Replaced nipple and valve
2271 Starflower Trl	5/29/1997	9/1/2009	1"	Dris	Clamp
2889 Country Hills RD	9/15/1990	9/1/2009	1"	Vanguard	Clamp
1705 Trane RD	2/21/1966	9/1/2009	1"	Dris	Clamp
1012 Merrill Ct	7/1/1982	9/2/2009	3/4"	Dris	Clamp
2350 Adobe Rd	11/1/2003	9/2/2009	1"	Vanguard	Clamp
1086 Copper Dr	7/1/1982	9/2/2009	3/4"	Dris	Replaced section
1236 Baseline Rd	1/16/1968	9/3/2009	Saddle	Abs	Unclogged saddle
2750 Springtime CT	6/3/2005	9/3/2009	1"	Vanguard	Clamp
1984 Riverbend Cir East	7/1/1967	9/4/2009	1"	Dris	Clamp
2976 Ranch House Rd	4/15/2003	9/5/2009	1"	Pvc	
1336 Newberry Dr	7/1/1960	9/6/2009	1"	Abs	Clamp
1705 Trane RD	2/21/1966	9/7/2009	1"	Dris	
2247 Merrill Ave	7/1/1982	9/8/2009	1"	Dris	
1428 Winters Cir	6/23/1968	9/8/2009	Nipple	Nipple	
1888 Coronado Dr	7/1/1959	9/8/2009	3/4"	Pvc	Hose clamp and rubber

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
800 Churct St	2/5/1973	9/9/2009	1"	Pvc	Replaced flowlock
1762 Hwy 95	7/1/1979	9/10/2009	1" Riser	1" Riser	Replaced 1" Meter Riser
2209 Hermosa Dr	7/1/1967	9/11/2009	Nipple	Nipple	
2575 Coountry Club	5/6/1969	9/11/2009	BV	BV	
2170 Newport Dr	7/1/1967	9/11/2009	BV	BV	
594 Holly St	4/10/1974	9/11/2009	1"	Dris	Clamp
1783 Arrowhead Dr	7/1/1967	9/12/2009	Nipple	Nipple	
3006 Milano Dr	7/1/2008	9/12/2009	1"	Dris	Clamp
1847 Colorado Blvd	7/1/1967	9/15/2009	3/4"	Copper	Replaced flair valve
827 Church St	2/5/1973	9/15/2009	1"	Pvc	Replaced tee and valves
955 Terrace Dr	4/28/1972	9/15/2009	Nipple	Nipple	
2731 Springtime CT	6/3/2005	9/15/2009	1"	Copper	Tighten Fitting
1873 Surf and Sand Dr	9/22/1982	9/15/2009	1"	Dris	
2631 Discovery Rd	6/3/2005	9/16/2009	1"	Dris	Clamp
2431 Sabino Dr	9/1/2004	9/16/2009	1"	Dris	Clamp
2610 Paloma Senda	7/1/1985	9/17/2009	1"	Dris	Clamp
1086 Hwy 95	7/1/1970	9/17/2009	1"	Copper	Tighten fitting
2630 Country Club Dr	7/1/1972	9/17/2009	Nipple	Nipple	Nipple broke while pulling meter for NPOFF
595 Stahlman Dr	4/10/1974	9/17/2009	BV	BV	
2466 Wilder Dr	9/1/2004	9/18/2009	1"	Dris	Installed second clamp
660 Sea Spray PL	7/1/1959	9/18/2009	1 1/4"	Pvc	Replace tee and valves
2567 Sundown Cir	2/3/2000	9/19/2009	1"	Dris	Clamp
1864 Merced Dr	7/1/1967	9/19/2009	BV	BV	
347 Meander Dr	7/1/1967	9/19/2009	BV	BV	Angle Valve
668 Sea Spray Pl	7/1/1959	9/19/2009	Nipple	Nipple	
1939 Merced Dr	7/1/1967	9/19/2009	1"	Dris	Clamp
1007 Churst St	10/31/1968	9/20/2009	Nipple	Nipple	Customer broke svc line, after hours fee and damage will be charged to customer
1009 Churst St	10/31/1968	9/20/2009	Nipple	Nipple	Customer broke svc line, after hours fee and damage will be charged to customer, after first repair was done
1780 Diamond Dr	7/1/1967	9/22/2009	BV	BV	Replaced ball valve
1677 Robberson Ave	11/6/2000	9/22/2009	1"	Dris	
1885 Hwy 95		9/22/2009	2'	Pvc	Replaced 2" Nipple
2606 Sanctuary Dr	12/12/2004	9/22/2009	1'	Dris	Clamp
350 Harbor Pl	7/1/1967	9/22/2009	3/4"	Dris	Clamp
344 Meander Dr	7/1/1967	9/23/2009	Riser	BV	Replaced Riser
1055 Zircon Dr	8/22/1967	9/23/2009	1"	Abs	Replaced tee and valves
1627 Mohave Dr	8/8/1985	9/24/2009	Nipple	Brass Nipple	Replaced 1 1/2" nipple inside vault
510 Riverfront Dr	4/10/1974	9/24/2009	BV	BV	
901 Terrace Dr	4/28/1972	9/24/2009	BV	BV	
1716 Williams Dr	9/3/1971	9/24/2009	1"	Pvc	Replaced tee and valves
830 Riverfront Dr	2/5/1973	9/24/2009	BV	BV	
1472 Winters Cir	6/23/1968	9/25/2009	BV	BV	Replaced angle Valve
2646 Discovery Rd	6/3/2005	9/25/2009	1"	Dris	Clamp
1371 Quartz ave	6/7/1966	9/25/2009	BV	BV	
1641 Emerald Dr	6/7/1966	9/25/2009	Nipple	Nipple	
2268 Merrill Ave	7/1/1982	9/25/2009	3/4"	Dris	Clamp
2314 Silverthorne Dr	12/16/2003	9/27/2009	1"	Dris	Clamp
2482 Sundown Cir	2/3/2000	9/28/2009	1"	Dris	Clamp
1059 Zircon Dr	8/22/1967	9/28/2009	1"	Abs	replaced section
2811 Amberwood Dr	8/31/2000	9/28/2009	1"	Dris	Clamp

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2225 Hermosa Dr	7/1/1967	9/30/2009	1 1/4"	Abs	Replaced bushing going into saddle and replaced svc to Meters
1177 Chippewa Dr	7/1/1972	10/1/2009	1"	Dris	Clamp
194 Lee Ave	7/1/1970	10/2/2009	3/4"	Dris	Clamp
859 Holly St	2/5/1973	10/2/2009	3/4"	Pvc	Replaced bushing going into tee
860 Riverwood Ln		10/2/2009	3/4"	Abs Grey	Replaced tee and valves
2552 Fox Run Ln	5/9/1996	10/3/2009	1"	Dris	Clamp
2444 Topanga Dr	7/1/2008	10/4/2009	1"	Vanguard	Clamp
1204 Baseline Rd	1/16/1968	10/5/2009	Riser	Riser	Replaced meter riser
2350 Adobe Rd	11/1/2003	10/6/2009	1"	Vanguard	Clamp
2893 Country Hills Rd	9/15/1990	10/6/2009	1"	Dris	Replaced section
2755 Avenida Grande	7/1/1985	10/7/2009	1"	Vanguard	Clamp
3078 Milano Dr	7/1/2008	10/7/2009	1"	Vanguard	Clamp
2293 Merrill Ave	7/1/1982	10/8/2009	3/4"	Pvc	Replaced 90'
1206 Pawnee Dr	7/1/1972	10/8/2009	1"	Dris	Clamp
2899 Hillview Dr	11/27/1986	10/8/2009	1"	Vanguard	Clamp
3001 Camino Del Rio	5/9/1980	10/9/2009	1"	Pvc	Replaced flow lock and valve
2581 Highland Trl	2/3/2000	10/9/2009	1"	Dris	Clamp
928 Hancock Rd	4/28/1972	10/9/2009	1"	Dris	Replaced section with copper
1344 Park Ln	7/1/1955	10/10/2009	BV	BV	Replaced angle valve
1344 Park Ln	7/1/1955	10/10/2009	BV	BV	Replaced angle valve
1344 Park Ln	7/1/1955	10/10/2009	BV	BV	Replaced angle valve
1344 Park Ln	7/1/1955	10/10/2009	BV	BV	Replaced angle valve
1932 Riverside Dr	7/1/1967	10/12/2009	Nipple	Nipple	Replaved nipple and valve
1611 Hwy 95	7/1/1982	10/12/2009	BV	BV	Replaced Ball Valve
1611 Hwy 95	7/1/1982	10/12/2009	BV	BV	Replaced Ball Valve
2461 Rio Dr	7/1/1970	10/12/2009	BV	BV	Replaced Ball Valve
1815 Surf Cv	9/22/1982	10/12/2009	BV	BV	Replaced ball valve
2022 Merrill Ln	7/1/1982	10/13/2009	3/4"	Pvc	Replaced nipple and Angle Valve
1775 Arriba Dr		10/13/2009	3/4"	Nipple	Replaced nipple and angle valve
2317 Soaring Eagle Dr	5/8/2002	10/13/2009	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	10/13/2009	1"	Dris	Clamp
2231 Riverview way	7/1/1967	10/14/2009	Nipple	Pvc	Replaced nipple and valve
831 Church St	2/5/1973	10/14/2009	Nipple	Nipple	Replaced nipple and valve
2387 Ripple Dr	7/1/1970	10/15/2009	1"	Abs	Replaced section in middle of street
2779 Avenida Grande	7/1/1985	10/16/2009	1"	Dris	Clamp
1725 El Cazador	7/1/1985	10/16/2009	1"	Dris	Clamp
2852 Acoma Dr		10/18/2009	3/4"	Mtr Coup	replaced nipple and coupling
2508 Whispering Ridge Dr	3/31/1997	10/19/2009	1"	Dris	Clamp
1657 Rio Vista Dr	9/3/1971	10/19/2009	BV	BV	
1442 Rio Vista Dr	3/2/1971	10/19/2009	BV	BV	Angle Valve
1676 Ramar Rd	9/3/1971	10/19/2009	Nipple	Nipple	Replaved nipple and valve
337 Riverfront Dr	7/1/1980	10/20/2009	BV	BV	
899 Brill Dr	12/29/1980	10/20/2009	3/4"	Coupling	Tighten meter coupling
1168 Agate Ave	2/21/1966	10/20/2009	BV	BV	Replaced ball valve
895 Glen Rd	4/28/1972	10/20/2009	1"	Pvc	Tighten Flow lock
2967 Camino Del Rio	5/9/1980	10/20/2009	3/4"	Pvc	Replaced 90, and valve
599 Riverview Dr	5/1/1996	10/21/2009	1"	Dris	Clamp on svc and fixed leak on riser
2547 Country Club Dr	5/6/1969	10/21/2009	BV	BV	
1203 Paseo Del Mar	12/31/1964	10/21/2009	BV	BV	
1192 Buena Vista	12/31/1964	10/21/2009	BV	BV	
1467 Luna LN	3/2/1971	10/21/2009	BV	BV	
963 Riverfront Dr	4/28/1972	10/22/2009	BV	BV	
1933 Coral Isle Dr	7/1/1959	10/22/2009	Nipple	Nipple	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2270 Silverthorne Dr	12/16/2003	10/23/2009	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	10/24/2009	1"	Dris	Clamp
2281 Soaring Eagle Dr	12/16/2003	10/26/2009	1"	Dris	Clamp
375 Anna Cir	7/1/1980	10/27/2009	BV	BV	
2402 Castle Rock Cir	7/1/1967	10/28/2009	BV	BV	
2442 Topanga Dr	7/1/2008	10/28/2009	1"	Vanguard	Clamp
2759 Country Club Dr	5/9/1980	10/28/2009	Nipple	Nipple	Replaced nipple and valve
2011 Rio Grande	7/1/1967	10/29/2009	3/4"	Tuff Tube	Hose clamp and rubber
285 Lee Ave	7/1/1970	10/29/2009	1"	Coppr	
2829 Amberwood Dr	8/31/2000	10/30/2009	1"	Dris	Clamp
212 Lee Ave	7/1/1970	10/30/2009	1"	Dris	Tighten clamp
2876 Winchester Dr	5/9/1996	10/31/2009	3/4"	PVC	Had to fix cust side plumbing, Bad angle from Svc replacement
270 Moser Ave	7/1/1970	10/31/2009	1"	Dris	Clamp
2245 Clearwater Dr	7/1/1967	11/2/2009	Nipple	Nipple	Replaced nipple and valve
340 Nevada Dr	7/1/1967	11/2/2009	BV	BV	Replaced valve
2147 Oswood Ln	7/1/1967	11/2/2009	Nipple	Nipple	
2458 Wilder Dr	9/1/2004	11/5/2009	1"	Dris	Clamp
1305 Baseline Rd	6/23/1968	11/5/2009	Nipple	Nipple	
1345 Park Ln	5/7/1969	11/5/2009	BV	BV	
2647 Sanctuary Dr	12/12/2004	11/5/2009	1"	Vanguard	Clamp
1803 Escalera Cir	10/28/1975	11/6/2009	BV	BV	
2250 Edgewood Dr	7/1/2008	11/10/2009	1"	Vanguard	Clamp
2232 Edgewood Dr	7/1/2008	11/10/2009	1"	Dris	Clamp
2141 Whitewater Dr	7/1/1967	11/11/2009	BV	BV	
1940 Merced Dr	7/1/1967	11/11/2009	3/4"	Pvc	Replaced 90'
546 Ramar Rd	4/10/1974	11/11/2009	BV	BV	
1031 Terrace Dr	7/1/1955	11/11/2009	3/4"	PVC	Tighten Fitting
1676 Turquoise	8/15/1966	11/11/2009	3/4"	BV	
1422 Dorado Way	3/2/1971	11/11/2009	BV	BV	
1464 Verano Pl	10/28/1975	11/11/2009	BV	BV	
1301 Baseline Rd	6/23/1968	11/12/2009	1"	Pvc	Replaced tee and valves
887 Riverfront Dr	4/28/1972	11/12/2009	1"	PVC/Copp	Lower service lines, Both side of property
1100 Copper Dr	7/1/1982	11/12/2009	3/4"	Dris	Replaced section with PVC
1873 Merced Dr	7/1/1967	11/17/2009	BV	BV	
2041 Gregg LN	7/1/1967	11/18/2009	BV	BV	
1491 Bryan Dr	6/23/1968	11/19/2009	1"	PVC	Replace cracked adaptor
1871 Riviera Blvd	1/26/1987	11/19/2009	1"	Dris	clamp
3024 Milano Dr	7/1/2008	11/19/2009	1"	Dris	Clamp
3024 Milano Dr	7/1/2008	11/19/2009	1"	Dris	Clamp
2602 Sanctuary Dr	12/12/2004	11/20/2009	1"	Dris	clamp
3004 Milano Dr	7/1/2008	11/22/2009	1"	Vanguard	Two Clamps
2500 Riverview Dr		11/23/2009	1"	Vanguard	Clamp
2435 Highland Trl	9/1/2004	11/27/2009	1"	Dris	Clamp
2437 Juneberry Cir	12/10/1996	11/27/2009	1"	Dris	Clamp
635 Riverfront Dr	3/17/1975	11/27/2009	Nipple	PVC	Replaced flow lock and valve, replaced meters
2402 Castle Rock Cir	7/1/1967	11/28/2009	3/4"	Tuff Tube	Replaced 45' rebuilt svc line
2960 Silver Creek Rd		12/1/2009	BV	BV	
1017 Papago Dr	7/1/1972	12/2/2009	BV	BV	
1022 Mobile Ln	7/1/1955	12/2/2009	1"	Abs	Replaced tee and valves, Broke due to roots, customer upset about water under mobile

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
970 San Juan	7/1/1967	12/2/2009	BV	BV	
1605 Turquoise Rd		12/3/2009	3/4"	Pvc	Tighten Flow lock
1716 Toro Dr	9/3/1971	12/3/2009	Nipple	Nipple	
1475 Colina Dr	10/28/1975	12/3/2009	1"	Pvc	Replaced tee and valve
2330 Silverthorne Dr	5/30/2006	12/4/2009	1"	Dris	Clamp
1777 Rollando Dr	7/1/1959	12/4/2009	Nipple	Nipple	
2275 Silverthorne Dr	12/16/2003	12/7/2009	1"	Dris	Clamp
756 Glen Dr	2/5/1973	12/8/2009	BV	BV	
826 Roadrunner Dr	2/5/1973	12/8/2009	BV	BV	
688 Mimosa Trl	7/1/1959	12/8/2009	BV	BV	
611 Silver Ln	7/1/1967	12/8/2009	3/4"	Dris	Clamp
2400 Merrill Ave	7/1/1982	12/8/2009	1"	Dris	Clamp
1613 Emerald Dr	6/7/1966	12/9/2009	1"	PVC	Replaced section
594 Citrus St	4/10/1974	12/10/2009	BV	BV	
1421 Riverfront Dr	6/23/1968	12/10/2009	BV	BV	
2064 Plaza Dr	7/1/1967	12/10/2009	3/4"	Pvc	Replaced 90'
354 Harbor Pl	7/1/1967	12/10/2009	3/4"	Tuff Tube	Hose clamp & Gasket
2458 Wilder Dr	9/1/2004	12/12/2009	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	12/15/2009	1"	Dris	
3086 Milano Dr	7/1/2008	12/15/2009	1"	Dris	Clamp
2043 Bermuda Dr	7/1/1967	12/16/2009	1"	Galv	Replaced section
2175 Riviera Blvd	7/1/1967	12/16/2009	1"	Dris	Clamp
395 Santa Maria Rd	7/1/1967	12/16/2009	1"	Pvc	Replaced tee and valves
2274 Merrill Ave	7/1/1982	12/16/2009	3/4"	Dris	Clamp
967 Hancock Rd	12/29/1980	12/17/2009	BV	BV	Scheduled shut down to replace 2" BV
1593 Sierra Vista Dr	6/2/1970	12/17/2009	BV	BV	replaced 2" BV
1428 Winters Cir	6/23/1968	12/17/2009	Nipple	Pvc	Nipple, Coupling
939 Captains Cv	7/1/1967	12/18/2009	1"	Abs	Replaced section of svc
1804 Tejon DR	7/1/1959	12/22/2009	Nipple	Nipple	
1772 Colorado Blvd	7/1/1967	12/22/2009	BV	BV	
1658 Newberry Dr		12/22/2009	BV	BV	
1734 Yale Dr	3/17/1975	12/24/2009	Nipple	Nipple	
2404 Castle Rock Cir	7/1/1967	12/27/2009	3/4"	Tuff Tube	Flow lock and valve
1825 East Shores Villa	7/1/1979	12/28/2009	1"	Dris	Adjusted clamp
1839 Rio Vista Dr	9/3/1971	12/28/2009	2"	Pvc	Blow off came off
1122 Zircon Dr	8/22/1967	12/29/2009	3/4"	Pvc	Rebuilt meter svc
191 Palm Ave	7/1/1970	12/30/2009	3/4"	Pvc	Replaced valve and relocated away from fence
711 Sea Srpay Pl	7/1/1959	12/30/2009	BV	BV	
2451 Highland Trl	9/1/2004	12/30/2009	1"	Dris	Clamp
871 Brill Dr	2/5/1973	12/31/2009	BV	BV	
2600 Calle De Mercado	7/1/1985	1/1/2010	BV	BV	
270 Moser Ave	7/1/1970	1/1/2010	BV	BV	
274 Moser Ave	7/1/1970	1/1/2010	BV	BV	
567 Coral Reef Dr	7/1/1967	1/6/2010	BV	BV	
1950 Hwy 95	4/14/1968	1/6/2010	BV	BV	
2350 Adobe RD	11/1/2003	1/6/2010	1"	Dris	Abondon Svc
592 Seafair Dr	7/1/1967	1/7/2010	BV	BV	
454 Riverfront Dr	7/1/1980	1/7/2010	1"	Dris	Hose clamp
711 Sea Spray Dr	7/1/1959	1/7/2010	3/4"	Pvc	Cust side broke after meter change was done
1940 Coral Reef Dr		1/7/2010	1"	Pvc	Replaced section, tee & valve

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1851 Oliver Dr	7/1/1967	1/8/2010	1"	Galv	Replaced section remover Galv nipple
1781 Colorado Blvd	7/1/1967	1/8/2010	Nipple	Pvc	Replaced tee and valves
1399 Plata Dr	3/2/1971	1/11/2010	BV	BV	
1228 Baseline Rd	1/16/1968	1/11/2010	Nipple	Pvc	Replaced tee and valves
1774 Paseo Del Rio		1/12/2010	Nipple	Pvc	Replaced tee and valves
208 Tanglewood Ln	7/1/1967	1/14/2010	BV	BV	
1846 Granada Dr	7/1/1967	1/15/2010	Nipple	Nipple	repaired section, Cust broke our side trying to fix theirs
527 Palo Verde	4/10/1974	1/15/2010	BV	BV	
2997 Coyote Run	2/6/2001	1/18/2010	3/4"	Dris	Clamp
2432 Bluebird Ln	5/19/2000	1/18/2010	1"	Copper	Replaced Grip joint with Pack Joint fitting
1631 Balsa Rd	9/3/1971	1/18/2010	BV	BV	
1700 Rio Vista Dr	9/3/1971	1/18/2010	BV	BV	
586 Stahlman Dr	4/10/1974	1/23/2010	1"	Dris	Clamp
2633 Discovery Rd	6/3/2005	1/25/2010	1"	Dris	Clamp
1121 Baseline Rd	1/16/1968	1/26/2010	1"	Abs	Replaced tee and valves
1661 Williams Way	9/3/1971	1/26/2010	BV	BV	
574 Ramar Rd	4/10/1974	1/26/2010	BV	BV	
1140 Citrus St	10/31/1968	1/26/2010	Riser	BV	
2135 Riviera Blvd	7/1/1967	1/26/2010	BV	BV	
2560 Majestic Way	1/22/2001	1/27/2010	1"	Dris	Clamp
2567 Sundown Cir	2/3/2000	1/27/2010	1"	Dris	Clamp
2626 Sanctuary Dr	12/12/2004	1/29/2010	1"	Vanguard	Clamp
2150 Del Rey Dr	7/1/1967	1/29/2010	Riser	Riser	Installed riser from meter change
1426 Plata Dr	3/2/1971	2/1/2010	Riser	Riser	Installed riser from meter change
2610 Sanctuary Dr	12/12/2004	2/1/2010	1"	Dris	Clamp
1611 Hwy 95	7/1/1982	2/1/2010	Riser	Riser	Installed riser from meter change
1086 Highway 95	7/1/1970	2/3/2010	1"	Copper	Tighten fitting
329 Meander Dr	7/1/1967	2/4/2010	Riser	Riser	Replaced riser and nipple on SVC line
928 Hancock Rd	4/28/1972	2/4/2010	1"	Copper	Tighten fitting
3005 Sienna Dr	7/1/2008	2/5/2010	1"	Vanguard	Clamp
1448 Arena Dr	3/2/1971	2/8/2010	Nipple	Pvc	Flow lock/ valve
507 Stahlman Dr	4/10/1974	2/8/2010	BV	BV	
2170 Balboa Dr	7/1/1967	2/8/2010	1"	Pvc	Replaced tee and valves
1651 Mesa Vista Dr	6/2/1970	2/8/2010	BV	BV	
596 Palo Verde	4/10/1974	2/8/2010	BV	BV	
1517 Orilla Ln	3/2/1971	2/8/2010	BV	BV	
1821 Arena Dr	10/28/1975	2/8/2010	Nipple		Tighten nipple
2508 Sundown Cir	2/3/2000	2/10/2010	BV	BV	
1799 Cyprus Ln	7/1/1967	2/11/2010	BV	BV	
Laughlin Ranch Blvd	4/19/2005	2/11/2010	2"	Vanguard	Clamp
2262 Merrill Ave	7/1/1982	2/11/2010	1"	Dris	Clamp
766 Ramar Rd	2/5/1973	2/15/2010	BV	BV	
1925 E Arcadia Cir	10/28/1975	2/15/2010	BV	BV	
1097 Sahauro Dr	7/1/1955	2/15/2010	BV	BV	
1895 Alta Vista Ln		2/15/2010	BV	BV	
2512 Camino Del Rio	7/2/1971	2/16/2010	1"	Pvc	Svc to empty lot
1947 Hualapai Dr	7/1/1967	2/16/2010	BV	BV	
1854 Monterey Dr	7/1/1967	2/16/2010	1"	Pvc	Cracked 90' after tee
1852 Del Norte Dr	7/1/1967	2/16/2010	BV	BV	
1261 Arcadia Dr	10/28/1975	2/16/2010	1"		Cracked glued coupling
1806 Riverside Dr	7/1/1967	2/17/2010	BV	BV	Installed Riser

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1463 Park Ln	7/1/1955	2/19/2010	BV	BV	
1955 Riverbend Cir W	7/1/1967	2/19/2010	1"	Tuff Tube	Replaced tee and valves
534 Roadrunner Dr	4/10/1974	2/19/2010	1"	BV	
1157 Baseline Rd	1/16/1968	2/23/2010	Riser	Riser	Replaced riser and stuck meter
2731 Springtime Ct	6/3/2005	2/24/2010	1"	Copper	Leak at fitting
2900 Country Club Plz	5/9/1980	2/24/2010			Broke customer side trying to replace meter
1063 Holly St	10/31/1968	2/25/2010	BV	BV	
606 Riverfront Dr	3/17/1975	2/25/2010	BV	BV	
1195 Copper Ln		2/25/2010	3/4"	Dris	Clamp
422 Emery Dr	10/6/1993	2/26/2010	BV	BV	
887 Riverfront Dr	4/28/1972	2/26/2010	1"	Pvc	Replaced section from Corp, was unmarked
2526 Bridlewise In	5/9/1996	2/28/2010	1"	Dris	Clamp
2294 Starflower Trl	6/6/1996	2/28/2010	1"	Dris	Clamp
2232 MountainSide Dr	9/24/1998	3/3/2010	1"	Dris	Clamp
2238 Sunrise Trl	9/24/1998	3/4/2010	1"	Dris	Clamp
2855 Mourning Dove Cir	6/6/1996	3/5/2010	1"	Dris	Clamp
689 Mimosa Trl	7/1/1959	3/5/2010	BV	BV	Had to rebuild cust side
2405 Castle Rock Cir	7/1/1967	3/5/2010	BV	BV	
877 Hancock Rd	12/5/1973	3/5/2010	3/4"	Dris	Hose clamp
1624 Ramar Rd	6/2/1970	3/5/2010	BV	BV	
1647 River Gandens Dr	2/5/1973	3/5/2010	BV	BV	
784 Brill Dr	2/5/1973	3/5/2010	1"	Pvc	Replaced tee and valves
945 Seafair Dr	7/1/1967	3/6/2010	Nipple	Nipple	Replaced nipple and valve
1868 Coronado Dr	7/1/1967	3/8/2010	BV	BV	Replaced BV
2348 Merrill Ave	7/1/1982	3/8/2010	BV	Dris	Clamp
778 Palo Verde	2/5/1973	3/10/2010	BV	BV	
415 Malibu Dr	7/1/1967	3/10/2010	Nipple	Nipple	service broke due to Palm Tree
780 Morro Cv	7/1/1967	3/10/2010	BV	BV	
902 Harbor Dr	11/1/1990	3/10/2010	BV	BV	
973 Harbor Dr	11/1/1990	3/10/2010	BV	BV	
24 Sabino Dr		3/10/2010	1"	Dris	Clamp
572 Paseo Del Rio	7/1/1967	3/11/2010	Riser	Riser	City hit meter box
2787 Avenida Grande	7/1/1985	3/12/2010	1"	Vanguard	Clamp
2545 Corona Redondo	7/1/1985	3/12/2010	1"	Vanguard	Clamp
1905 Surf and Sand Dr	7/1/1959	3/12/2010	3/4"	Pvc	Replaced nipple and Valve, broke due to tree roots
570 Ramar Rd	4/10/1974	3/13/2010	1"	Dris	Clamp
189 Tedford Ave	1/10/1972	3/14/2010	3/4"	Pvc	Replaced nipple and Valve, apperas broke due to tampering
1360 Quartz Ave	6/7/1966	3/15/2010	BV	BV	
996 Terrace Dr	4/28/1972	3/15/2010	BV	BV	
2372 Merrill Ave	7/1/1982	3/15/2010	BV	Dris	Clamp
1705 Gemstone Ave	12/5/1973	3/16/2010	3/4"	Dris	Clamp
1866 Forest Way	7/1/1967	3/16/2010	Nipple	BV	
939 Captains CV	7/1/1967	3/16/2010	1"	Abs	Replaced section
531 Malibu	7/1/1967	3/17/2010	BV	BV	
1907 Castle Berry Ln	7/1/1967	3/17/2010	3/4"	Pvc	Replaced section
2088 Rivera Blvd	7/1/1967	3/18/2010	1"	Dris	Replaced section with PVC
685 Lilac Ln	7/1/1959	3/18/2010	BV	BV	
877 Riverfront Dr	4/28/1972	3/19/2010	1"	Pvc	Replaced 2 Foot section
2659 Sanctuary Dr	12/12/2004	3/19/2010	1"	Dris	Clamp
2075 Kingston Dr	7/1/1967	3/19/2010	Riser	Riser	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2534 Bridlewise Ln	5/9/1996	3/20/2010	1"	Dris	Replaced section
1041 Navajo Dr	7/1/1972	3/22/2010	BV	BV	
1673 Rio Vista Dr	9/3/1971	3/22/2010	Nipple	Nipple	
2335 Silverthorne Dr	5/30/2006	3/22/2010	1"	Dris	Clamp
389 Patillo Dr	7/1/1980	3/23/2010	BV	BV	
403 Patillo Dr	7/1/1980	3/23/2010	BV	BV	
364 Harbor PLZ	7/1/1967	3/24/2010	BV	BV	
887 Riverfront Dr	4/28/1972	3/24/2010	1"	Pvc	Replaced section
1205 Country Club CV	5/9/1980	3/25/2010	BV	BV	
702 Daisy Dr	7/1/1959	3/25/2010	BV	BV	
1124 Papago Dr	7/1/1972	3/25/2010	BV	BV	
310 Nevada Dr	7/1/1967	3/25/2010	3/4"		Clamp
2201 Del Rey Dr	7/1/1967	3/25/2010	BV	BV	
2242 Topanga Dr		3/26/2010	1"	Vanguard	Replaced section
2881 Moonlight Dr	6/6/1996	3/26/2010	1"	Dris	Replaced section
689 Holly St	3/17/1975	3/27/2010	Nipple	Nipple	Replaced tee and valves
3107 Sienna Dr	7/1/2008	3/27/2010	1"	Vanguard	Clamp
2325 Soaring Eagle Dr	5/8/2002	3/29/2010	1"	Vanguard	Clamp
2647 Sanctuary Dr	12/12/2004	3/29/2010	1"	Vanguard	Clamp
2611 Discovery Rd	12/12/2004	3/31/2010	1"	Dris	Clamp
415 Malibu Dr	7/1/1967	3/31/2010	1"	Pvc	Replaced tee and valves, Broke due to Palm Tree
1641 W Palma Cir	6/7/1966	4/2/2010	Nipple	Nipple	Installed riser
627 Citrus St	4/10/1974	4/2/2010	1"	Dris	Clamp
2513 Majestic Way	1/22/2001	4/2/2010	1"		
415 Malibu Dr	7/1/1967	4/3/2010	3/4"	Nipple	
1060 Rosebud Dr	7/1/1972	4/4/2010	BV	BV	
617 Malibu	7/1/1967	4/6/2010	Nipple	Nipple	
585 Malibu		4/7/2010	BV	BV	
1884 Oliver Dr	7/1/1967	4/7/2010	1"	Dris	Clamp
3160 Hwy 95		4/8/2010	1"	Light blue	Replaced section
1078 Baseline Rd	8/22/1967	4/13/2010	1"	Saddle	Fixed plugged saddle
840 Swan Dr	7/1/1967	4/13/2010	BV	BV	
1862 Montclair Dr	7/1/1967	4/14/2010	1 1/4"	Abs	Rebuilt svc
2276 Acoma Plz	7/1/1972	4/14/2010	BV	BV	
2134 Wilder Dr		4/15/2010	1"	Dris	Clamp
2374 Crimson Rd	4/15/2003	4/19/2010	1"	Dris	Clamp
3046 Sienna DR	7/1/2008	4/19/2010	1"	Vanguard	Clamp
1921 Castle Berry Ln	7/1/1967	4/19/2010	1"	Dris	Clamp
2650 Sanctuary Dr	12/12/2004	4/20/2010	1"	Dris	Clamp
899 Brill Dr	12/29/1980	4/21/2010	Riser	Riser	Cust ran over his meter box
1887 Oliver Dr	7/1/1967	4/21/2010	BV	BV	
2894 Camino Del Rio	5/9/1980	4/21/2010	Nipple	Nipple	Box was ran over cust needs to raise svc to match
1859 Oliver Dr	7/1/1967	4/21/2010	1 1/4"	Abs	Replaced tee and valves
399 Santa Maria Rd	7/1/1967	4/22/2010	Nipple	Nipple	
939 Captains Cv	7/1/1967	4/23/2010	2"	ABS	Replaced section
2636 Paloma Senda	7/1/1985	4/24/2010	1"	Dris	Clamp
1300 Gemstone Ave	6/7/1966	4/25/2010	1"	Grey Abs	Clamp
596 Palo Verde	4/10/1974	4/26/2010	Nipple	Nipple	
1366 Rubel Ln	6/23/1968	4/26/2010	1"		Clamp
1783 Arrowhead Dr	7/1/1967	4/27/2010	Nipple	Nipple	
2701 Rolling Hills Rd		4/27/2010	1"	Vanguard	Clamp
364 Harbor Pl	7/1/1967	4/28/2010	Nipple	Nipple	Broke due to strees on pipeing

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1836 Arena Dr	10/28/1975	4/28/2010	2"	PVC	Replaced section & 90' Next to main
1458 Rio Vista Dr	3/2/1971	4/28/2010	BV	BV	
755 Riverfront Dr	2/5/1973	4/28/2010	BV	BV	
980 Marina Blvd	7/1/1967	4/28/2010	BV	BV	Flair Valve
2350 Adobe Rd	11/1/2003	4/29/2010	1"	Dris	Clamp
2622 Discovery Rd	12/12/2004	4/30/2010	1"	Dris	Clamp
2532 Majestic Way	1/22/2001	5/1/2010	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	5/2/2010	1"	Dris	Clamp
2673 Sanctuary Dr	12/12/2004	5/3/2010	1"	Dris	Clamp
1435 Rio Vista Dr	3/2/1971	5/3/2010	1"	Brass	Nipple below tee, replaced tee and valves
1234 Escalera Pl	10/28/1975	5/4/2010	BV	BV	
2631 Discovery Rd	6/3/2005	5/4/2010	1"	Dris	Clamp
395 Santa Maria Rd	7/1/1967	5/4/2010	3/4"	Pvc	Bushing
353 Malibu Cir N.		5/5/2010	BV	BV	
1395 Zircon Ave	7/6/1982	5/5/2010	BV	BV	
2088 Riviera Blvd	7/1/1967	5/5/2010	Nipple	Nipple	
1086 Highway 95	7/1/1970	5/5/2010	1"	Copper	Tightn fitting for Crip coupling
1779 Colorado Blvd	7/1/1967	5/7/2010	3/4"	Pvc	replaced bushing under tee
1932 Orca Ln	7/1/1967	5/7/2010	Saddle	Abs	replaced leaking saddle
2407 Topanga Dr	7/1/2008	5/8/2010	1"	Vanguard	Clamp
2445 Topanga Dr	7/1/2008	5/8/2010	1"	Vanguard	Clamp
2066 Catalina Dr	7/1/1967	5/11/2010	BV	BV	
991 Church St	4/28/1972	5/11/2010	1"	Pvc	Replaced tee and valves
2450 Topanga Dr	7/1/2008	5/11/2010	1"	Vanguard	Clamp
2633 Discovery Rd	6/3/2005	5/12/2010	1"	Dris	Clamp
1618 GoldRush Rd	7/1/1994	5/13/2010	2"	Dris	Replaced section
2076 Diamond Dr	7/1/1967	5/14/2010	Nipple	Nipple	
2449 Merrill Ave	7/1/1982	5/17/2010	3/4"	Dris	Clamp
2298 Silverthorne Dr	12/16/2003	5/17/2010	1"	Dris	Clamp
2482 Rio Dr	7/1/1970	5/17/2010	BV	BV	
1435 Mirada Dr	5/7/1969	5/17/2010	3/4"	Pvc	Replaced nipple and meter valve, Had to pull palm tree
1854 Monterey Dr	7/1/1967	5/20/2010	1"	Pvc	Replaced 90' and coupling
2585 Corona Redondo	7/1/1985	5/21/2010	1"		Two Clamps
223 Francher Ln	7/1/1970	5/21/2010	BV	BV	
2509 Valley Vista	7/1/1985	5/21/2010	1"	Dris	Clamp
1675 Highway 95	7/1/1982	5/22/2010	2"	Pvc	Replaced 90' and misc fittings
1675 Highway 95	7/1/1982	5/23/2010	2"	Pvc	was going back to backfill and notice fitting came apart.
336 Nevada Dr	7/1/1967	5/24/2010	3/4"	Dris	Replaced section with sch 40
1781 Rio Grande Rd	7/1/1967	5/24/2010	Nipple	Nipple	
1781 Rio Grande Rd	7/1/1967	5/24/2010	3/4"	Pvc	Coupling broke after pervious repair
2444 Topanga Dr	7/1/2008	5/24/2010	1"	Vanguard	Clamp
1697 Toro Dr	9/3/1971	5/24/2010	3/4"	Pvc	replaced tee and valves
2350 Adobe Rd	11/1/2003	5/25/2010	1"	Dris	two clamps
833 Hancock Rd	2/5/1973	5/25/2010	1"	Dris	Clamp
1671 Rio Vista Dr	9/3/1971	5/25/2010	BV	BV	
1779 Colorado Blvd	7/1/1967	5/25/2010	3/4"	Pvc	Replaced coupling
712 Roadrunner Dr	3/17/1975	5/26/2010	1"	Pvc	Replaced bushing and valve
2280 Merrill Ave	7/1/1982	5/26/2010	3/4"	Dris	Clamp
1199 Camino Cv	5/9/1980	5/26/2010	1"	Pvc	Flow lock & Valve rebuilt meter valve
336 Nevada Dr	7/1/1967	5/26/2010	3/4"	Pvc	Replaced coupling
2350 Adobe Rd	11/1/2003	5/27/2010	1"	Vanguard	Replaced section

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1095 Copper Dr	7/1/1982	5/27/2010	3/4"	Dris	Clamp
3047 Sienna Dr	7/1/2008	5/27/2010	1"	Vanguard	Clamp
2607 Rolling Hills Rd	6/3/2005	5/28/2010	1"	Dris	Tighten clamp
2502 Juneberry Cir	5/19/2000	5/28/2010	1"	Dris	Clamp
2530 Corona Redondo	7/1/1985	5/28/2010	1"	Dris	Clamp
1381 Trane Rd	5/7/1969	5/31/2010	BV	BV	
2309 Soaring Eagle Dr	5/8/2002	6/1/2010	1"	Dris	Clamp
2357 Castle Rock Cir	7/1/1967	6/1/2010	3/4"	Tuff Tube	Clamp
2268 Merrill Ave	7/1/1982	6/2/2010	3/4"	Dris	Clamp
1193 Chippewa Dr	7/1/1972	6/6/2010	1"	Dris	Clamp
2022 Merrill Ln	7/1/1982	6/6/2010	3/4"	Pvc	Replaced 90'
1093 Jocabima Dr	4/28/1972	6/7/2010	1"	Vanguard	Clamp
221 Riverfront Dr	7/1/1980	6/7/2010	1"	Dris	Clamp
1545 Dorado Dr	3/2/1971	6/7/2010	Nipple	Nipple	Replaced nipple and valve
914 Sandy Beach Dr	11/1/1990	6/7/2010	BV	BV	
2821 Country Club Dr	5/9/1980	6/8/2010	1"	Dris	Replace brance and valves
1521 Sunset Dr	7/1/1972	6/8/2010	Nipple	Nipple	
1799 Colorardo Blvd	7/1/1967	6/9/2010	Nipple	Nipple	Contractor left before we arrived
825 Baseline Rd	2/5/1973	6/10/2010	1"	Dris	two clamps
1098 Papago Dr	7/1/1972	6/10/2010	1"	Dris	Clamp
1315 Mohave Dr	1/2/1972	6/10/2010	1"	Dris	Clamp
1300 Pima Ln	7/1/1960	6/12/2010	1"	Dris	Clamp
2270 Acoma Pl	7/1/1972	6/12/2010	1"	Dris	Clamp
2316 Merrill Ave	7/1/1982	6/13/2010	3/4"	Dris	Clamp
2578 Avenida Grande	7/1/1985	6/13/2010	1"	Dris	Clamp
1817 Riverside Dr	7/1/1967	6/14/2010	Saddle	Saddle	Replaced saddle
2039 Whitewater Dr	7/1/1967	6/14/2010	Nipple	Nipple	
2377 Crimson Rd	4/15/2003	6/15/2010	1"	Dris	Clamp
2881 Canyon Breeze	5/29/1997	6/15/2010	1"	Vanguard	Clamp
2787 Avenida Grande	7/1/1985	6/15/2010	1"	Vanguard	Clamp
2010 Del Rey Dr		6/15/2010	3/4"	Dris	Clamp
2355 Taos Rd	7/1/1972	6/16/2010	Nipple	Nipple	
2201 Del Rey Dr	7/1/1967	6/17/2010	3/4"	Copper	Replaced bad flair fitting
935 Church St	4/28/1972	6/17/2010	1"	Pvc	Replaced tee and valves
3089 Sienna Dr	7/1/2008	6/17/2010	1"	Vanguard	Clamp
2638 Sanctuary Dr	12/12/2004	6/17/2010	1"	Dris	Clamp
Red Cedar& Canyon IRRIG	2/24/1992	6/17/2010	2"	Dris	Clamp
1657 Ramar Rd	6/2/1970	6/21/2010	1"	Pvc	Replaced tee and valves
2405 Topanga Dr	7/1/2008	6/22/2010	1"	Dris	Clamp
1927 Orca Ln	7/1/1967	6/22/2010	3/4"	Grey Abs	Replaced section, Hit by BHC sewer crew
2989 Carefree Dr	7/1/2008	6/23/2010	1"	Dris	Clamp
2921 Country Club Dr	7/30/1992	6/25/2010	3/4"	Pvc	Replaced elbow
1778 Sea Creek Dr	7/1/1967	6/25/2010	BV	BV	
878 La Jolla Dr	7/1/1967	6/25/2010	Nipple	Nipple	Replaced nipple and Valve
2593 Camino Del Rio	12/31/1967	6/26/2010	1"	Pvc	Replaced Male adapter
2650 Sanctuary Dr	12/12/2004	6/26/2010	1"	Dris	Clamp
2529 Majestic Way	1/22/2001	6/28/2010	1"	Dris	Replaced section
643 Roadrunner Dr	3/17/1975	6/28/2010	BV	BV	
2593 Camino Del Rio	12/31/1967	6/28/2010	Nipple	Nipple	Replaced nipple and Valve
2610 Paloma Senda	7/1/1985	6/29/2010	1"	Dris	Clamp
1705 Trane Rd	2/21/1966	6/30/2010	3/4"	Dris	Clamp
1097 Zircon Dr	8/22/1967	7/2/2010	Nipple	Nipple	Flow lock & Valve
2280 Merrill Ave	7/1/1982	7/2/2010	1"	Dris	Hose clamps

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
863 Hancock Rd	2/5/1973	7/2/2010	1"	Dris	two Clamps
2700 Laughlin Ranch Blvd	4/19/2005	7/2/2010	2"	Vanguard	IRRIG line, installed clamp
2191 Bermuda Dr	7/1/1967	7/2/2010	3/4"	Dris	Replaced section
1774 Paseo De Playa	7/1/1959	7/3/2010	3/4"	Pvc	Replaced nipple and Valve
927 Hancock Rd	4/28/1972	7/3/2010	1"	Pvc	Had to redo plumbing going to meters, Settled after service was replaced.
926 Seafair Dr	7/1/1967	7/5/2010	1"	Pvc	Replaced section
820 Gemstone Ave	12/5/1973	7/5/2010	1"		Clamp
975 Seafair Dr	7/1/1967	7/5/2010	1"	Pvc	Clamp
710 Daisy Dr	7/1/1959	7/6/2010	1"	Dris	Clamp
1122 Zircon Dr	8/22/1967	7/6/2010	Nipple	Nipple	Replaced nipple and Valve
892 Glen Dr	4/28/1972	7/6/2010	BV	BV	
1367 Terrace Dr	6/23/1968	7/6/2010	BV	BV	
2528 Majestic Way	1/22/2001	7/8/2010	1"	Dris	Clamp
2242 Balboa Dr	7/1/1967	7/8/2010	Nipple	Nipple	Cust broke
2389 Acoma Dr	7/1/1972	7/8/2010	BV	BV	
190 Lee Ave	7/1/1970	7/9/2010	3/4"	Dris	Replaced section to meter
1359 Riverfront Dr	6/23/1968	7/9/2010	BV	BV	
2633 Discovery Rd	6/3/2005	7/9/2010	1"	Dris	Clamp
1675 Highway 95	7/1/1982	7/9/2010	2"	Pvc	Cracked pvc fitting
527 Palo Verde	4/10/1974	7/13/2010	Nipple	Nipple	
957 Sandy Beach Dr	11/1/1990	7/13/2010	BV	Nipple	Nipple & Valve
963 Riverfront Dr	4/28/1972	7/13/2010	1"	Pvc	Lower svc at customers request
1801 Colorado Blvd	7/1/1967	7/13/2010	3/4"	Tuff Tube	Replaced section
2350 Adobe Rd	11/1/2003	7/15/2010	1"	Dris	Clamp
1106 Copper Dr	7/1/1982	7/15/2010	3/4"	Dris	Replaced section from tee to valve
784 Brill Dr	2/5/1973	7/17/2010	1"	Pvc	Replaced tee and valves
1021 Mobile Ln	7/1/1955	7/20/2010	1"	Vanguard	Clamp
2280 Merrill Ave	7/1/1982	7/21/2010	3/4"	Dris	Hose Clamp
Rolling Hills Rd IRRIG		7/21/2010	1"	Vanguard	Clamp
2310 Stallion Rd	7/1/1960	7/22/2010	1"	Abs	Replaced tee and valves
152 Hacienda Dr	1/10/1972	7/22/2010	BV	BV	
2738 Springtime Ct	6/3/2005	7/23/2010	1"	Dris	Clamp
2588 Calle De Mercado	7/1/1985	7/24/2010	1"	Pvc	Clamp
2190 Kingston Ln	7/1/1967	7/25/2010	3/4"	Dris	Two Clamps
2316 Ryan way	3/31/1997	7/26/2010	1"	Dris	Clamp
2477 Merrill Ave	7/1/1982	7/27/2010	3/4"	Dris	Replaced section from tee to valve
2316 Merrill Ave	7/1/1982	7/27/2010	3/4"	Dris	Replaced section from tee to valve
1718 Hilltop Cir	6/2/1970	7/27/2010	1"	Pvc	Replaced section, NPL hit mismarked
2416 Merrill Ave	7/1/1982	7/27/2010	3/4"	Dris	Clamp
1097 Zircon Dr	8/22/1967	7/28/2010	3/4"	Pvc	Lower svc at customers request
2200 Kingston Ln	7/1/1967	7/28/2010	3/4"	Dris	Clamp
3003 Hwy 95	2/10/1986	7/29/2010	BV	BV	
855 Sea Spray Dr	7/1/1959	7/30/2010	3/4"	Vanguard	Clamp
1854 Monterey Dr	7/1/1967	7/30/2010	1"	Pvc	Replaced tee and Valves
2639 Lantana Dr	5/8/2007	7/31/2010	1"	Vanguard	Clamp
1666 Rio Vista Dr	9/3/1971	8/2/2010	1"	Vanguard	Clamp
1216 Mohave DR	12/31/1964	8/2/2010	Riser	Riser	Replaced meter riser
2531 Country Club Ln	1/2/1972	8/3/2010	BV	BV	
2960 Silver Creek Rd		8/3/2010	Nipple	Nipple	
784 Brill Dr	2/5/1973	8/3/2010	1"	Pvc	Replaced tee and valves
2532 Majestic Way	1/22/2001	8/3/2010	1"	Dris	Clamp
446 Coral Reef Dr	7/1/1967	8/3/2010	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1888 El Monte Dr	7/1/1967	8/4/2010	Nipple	Nipple	
522 Riverfront Dr	4/10/1974	8/4/2010	1"	Dris	Clamp
2447 Topanga Dr	7/1/2008	8/4/2010	1"	Vanguard	Clamp
2066 Catalina Dr	7/1/1967	8/4/2010	Nipple	Nipple	
980 Coral Reef Dr	1/20/1999	8/4/2010	BV	BV	
1120 Papago Dr	7/1/1972	8/5/2010	Riser	Riser	
1762 Sea Creek Dr	7/1/1967	8/5/2010	Riser	Riser	
2601 Paloma Senda	7/1/1985	8/6/2010	1"	Dris	Clamp
1055 Zircon Dr	8/22/1967	8/6/2010	1"	Abs	Replaced tee and valve
1465 Mirada Dr	5/7/1969	8/7/2010	Nipple	Nipple	
833 Hancock Rd	2/5/1973	8/8/2010	1"	Dris	Clamp
1054 Riverview Dr	7/1/1972	8/9/2010	BV	BV	
1595 Turquoise Rd	6/2/1970	8/9/2010	Riser	Riser	
216 Riverwood Ln	7/1/1967	8/9/2010	Riser	Riser	
1942 Riverbend Cir E	7/1/1967	8/9/2010	BV	BV	
1588 Camino Ct	5/9/1980	8/9/2010	BV	BV	
780 Brill Dr	2/5/1973	8/9/2010	1"	Pvc	Replaced tee and valves
2350 Adobe Rd	11/1/2003	8/10/2010	1"	Vanguard	Clamp
1943 Sea Breeze Ln	7/1/1959	8/11/2010	3/4"	Pvc	Rerouted svc onto property
1431 Park Ln	7/1/1955	8/11/2010	BV	BV	
1435 Verde Rd	5/7/1969	8/11/2010	BV	BV	
2234 Sunrise Trl	9/24/1998	8/11/2010	3/4"	Pvc	
2320 Soaring Eagle Dr	5/8/2002	8/11/2010	1"	Vanguard	Clamp
787 Roadrunner Dr	2/5/1973	8/11/2010	1"	Pvc	Replaced tee and valves
1793 Tejon Dr	7/1/1959	8/12/2010	Nipple	Nipple	
454 Riverfront Dr	7/1/1980	8/12/2010	1"	Dris	Replaced section
461 Riverfront Dr	7/1/1980	8/13/2010	3/4"	Copper	Clamp
2234 Sunrise Trl	9/24/1998	8/14/2010	3/4"	Pvc	Coupler broke
2992 Ranch House RD	7/1/2008	8/14/2010	3/4"	Pvc	Replaced coupling
378 Whitewater Dr	7/1/1967	8/16/2010	Riser	Riser	
2304 Merrill Ave	7/1/1982	8/16/2010	3/4"	Dris	Replaced section
2050 White Sands Dr	7/1/1967	8/17/2010	3/4"	PVC	Sun City guys broke csut side, Steven made repairs,
2176 Rivera Blvd	7/1/1967	8/18/2010	BV	BV	
576 Ramar Rd	4/10/1974	8/18/2010	BV		Tighten nipple below Angle valve
545 Riverfront Dr	4/10/1974	8/18/2010	BV	BV	
897 Surf Spray Dr	1/26/1987	8/18/2010	1"	Abs	Clamp
1722 Hilltop Cir	8/15/1966	8/19/2010	1"	Abc	Flow lock and valve
807 Church St	2/5/1973	8/19/2010	BV	BV	
2256 Riverview Ct	7/1/1972	8/20/2010	BV	BV	
686 Ramar Rd	3/17/1975	8/20/2010	BV	BV	
1006 Highway 95	7/1/1970	8/20/2010	3/4"	Gasket	Meter Gasket
2017 Plaza Dr	7/1/1967	8/20/2010	BV	BV	
2097 Balboa Dr	7/1/1967	8/20/2010	BV	BV	
963 Skippers Cv	7/1/1967	8/20/2010	1"	Abs	Replaced section
2050 Trinidad Dr	7/1/1967	8/22/2010	BV	BV	Flair Valve
544 Harbor Dr	7/1/1967	8/22/2010	BV	BV	
2348 Acoma Pl	7/1/1972	8/22/2010	BV	BV	
615 Harbor Dr	7/1/1967	8/22/2010	Nipple	Nipple	
2774 Avenida Grande	7/1/1985	8/22/2010	1"	Vanguard	Clamp
1705 Trane RD	2/21/1966	8/23/2010	3/4"	Dris	Clamp
1879 Monterey Dr	7/1/1967	8/23/2010	BV	BV	
1783 Coral Reef Dr	7/1/1967	8/23/2010	BV	BV	
1772 Rollando Dr	7/1/1959	8/23/2010	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
562 Sea Spray Pl	7/1/1967	8/23/2010	BV	BV	Flair Valve
1924 Surf and Sand Dr	7/1/1959	8/23/2010	BV	BV	
2960 Silver Creek Rd		8/24/2010	BV	BV	
2127 Colorado Blvd	7/1/1967	8/24/2010	BV	BV	Gas Wedge Valve
2105 Coronado Dr	7/1/1967	8/24/2010	BV	BV	
2150 Bermuda DR	7/1/1967	8/25/2010	Nipple	Nipple	
1256 Lause Rd	5/9/1980	8/25/2010	Nipple	Nipple	
1097 Zircon Dr	8/22/1967	8/25/2010	3/4"	Pvc	Lower svc at customers request
655 Sea Spray Pl	7/1/1959	8/25/2010	BV	BV	
2532 Via Arroyo	5/6/1969	8/25/2010	BV	BV	Replaced angle valve , installed riser
2280 Merrill Ave	7/1/1982	8/26/2010	3/4"	Dris	Replaced section
2046 Plaza Dr	7/1/1967	8/26/2010	3/4"	Pvc	Broke while changing out meter
1675 Highway 95	7/1/1982	8/30/2010	2"	Pvc	Fitting cracked on customer side after repairing ourside
604 Swan Dr	7/1/1967	8/31/2010	2"	Pvc	Clamp
1688 Talc rd	9/3/1971	9/1/2010	3/4"	Pvc	Rebuilt Tee/ SWG hit customer side that broke ours
1902 Castle Berry Ln	7/1/1967	9/2/2010	3/4"	Pvc	Tree Roots
2022 Merrill Ln	7/1/1982	9/3/2010	Nipple	Nipple	
1450 Paseo Grande		9/4/2010	2"	Cust	Turn main off for cust, leak their respon to fix
1012 Merrill Ct	7/1/1982	9/7/2010	3/4"	Dris	Replaced section from Tee to meters
780 Brill Dr	2/5/1973	9/7/2010	3/4"	Pvc	Replaced tee and valves
891 Turney Dr	4/28/1972	9/7/2010	3/4"	Pvc	Replaced tee and valves
2046 Plaza Dr	7/1/1967	9/7/2010	BV	BV	
2050 Plaza Dr	7/1/1967	9/7/2010	3/4"	Pvc	Replaced 90'
296 Riverwood Ln	7/1/1967	9/8/2010	Nipple	Nipple	
182 Hacienda Loop	1/10/1972	9/8/2010	3/4"	Gasket	Meter Gasket
183 Palm Ave	7/1/1970	9/8/2010	3/4"	Dris	Two Clamps
1656 Rio Vista Dr	9/3/1971	9/8/2010	BV	BV	
1890 Rio Grande Rd	7/1/1967	9/8/2010	BV	BV	
859 Hancock Rd	12/5/1973	9/9/2010	1"	Dris	Clamp
1789 Artesia Dr	7/1/1967	9/9/2010	BV	BV	Flair Valve
1594 Lakeside Dr	10/31/1968	9/9/2010	BV	BV	
1640 Trane Rd	7/1/1988	9/9/2010	3/4"	Pvc	Replaced bushing and valve
1656 Trane Rd	7/1/1988	9/10/2010	1"	Pvc	Replaced tee and valves
356 Harbor Pl	7/1/1967	9/10/2010	BV	BV	Angle Valve
1902 Castle Berry Ln	7/1/1967	9/11/2010	3/4"	Pvc	
424 Anna Cir	7/1/1980	9/11/2010	1"	Dris	Clamp
1083 Papago Dr	7/1/1972	9/13/2010	1"	Copper	NPL, hit mismaked line
787 Ramar RD	2/5/1973	9/13/2010	1"	Pvc	Replaced tee off of Corp
2268 Merrill Ln	7/1/1982	9/14/2010	3/4"	Dris	Replaced section from tee to meter
731 Morro Cv	7/1/1967	9/15/2010	1"	pvc	replaced male adapter going into tee
1705 Trane RD	2/21/1966	9/15/2010	3/4"	Dris	Hose clamp
1165 Baseline Rd	1/16/1968	9/15/2010	Gasket	Gasket	Replaced meter gasket
1431 Park Ln	7/1/1955	9/15/2010	BV	BV	
1381 Mohave Dr	7/1/1972	9/15/2010	BV	BV	
1996 Riverbend Cir E	7/1/1967	9/15/2010	3/4"	Dris	Clamp
2576 Majestic Way	1/22/2001	9/17/2010	3/4"	Pvc	Customer side broke after replacing our svc line, Leak was repaired
1344 Park Ln	7/1/1955	9/17/2010	BV	BV	Replaced 4 Angle Valves
1601 Paloma Senda Dr		9/17/2010	Riser	Riser	Installed riser afetr changing out stuck meter
461 Riverfront Dr	7/1/1980	9/18/2010	1"	Copper	Replaced section

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454 Riverfront Dr	7/1/1980	9/19/2010	1"	Dris	Clamp
2011 Rio Grande	7/1/1967	9/20/2010	3/4"	Pvc	Replaced section
1803 Colorado Blvd	7/1/1967	9/23/2010	Nipple	Nipple	Replaced nipple and valve
935 Captains CV	7/1/1967	9/23/2010	1"	Abs	Clamp
1484 Church St	5/7/1969	9/24/2010	1"	Dris	Hit by NPL
1435 Paradise Ln	7/1/1955	9/24/2010	3/4"	Pvc	Repaired cust side, broke after meter change was done
1941 Morning Glory Trl	7/1/1959	9/25/2010	1"	Pvc	Replaced section
1902 Castle Berry Ln	7/1/1967	9/26/2010	3/4"	Pvc	Rebuilt svc line to match customers, bad bind on svc line
645 Palo Verde	3/17/1975	9/27/2010	BV	BV	
2529 Camino Del Rio	7/1/1987	9/27/2010	1"	Pvc	Replaced tee and valves
544 Harbor Dr	7/1/1967	9/27/2010	BV	BV	
2069 White Sands Dr	7/1/1967	9/27/2010	BV	BV	
2019 Lakeside Dr	7/1/1967	9/27/2010	BV	BV	
476 Emery Dr	10/6/1993	9/27/2010	BV	Pvc	Replaced BV, and broke customer side, Repaired cust side plumbing
2618 Sanctuary Dr	12/12/2004	9/28/2010	1"	Dris	Clamp
789 Gemstone Ave	12/5/1973	9/29/2010	BV	BV	
279 Riverfront Dr	7/1/1980	9/29/2010	1"	Dris	Clamp
1098 Copper Ln	7/1/1982	9/29/2010	3/4"	Dris	Clamp
611 Silver Ln	7/1/1967	9/30/2010	BV	BV	
604 Havasu Ln	7/1/1967	9/30/2010	BV	BV	
905 Terrace Dr	4/28/1972	9/30/2010	3/4"	PVC	Customer broke ourside trying to remove Pin for lock, we had to rebuil tee
1504 Orilla Ln	3/2/1971	9/30/2010	3/4"	BV	
1795 El Dorado Dr	7/1/1967	9/30/2010	Saddle	Abs	Installed coller Clamp on leaking glue saddle
2066 Catalina Dr	7/1/1967	9/30/2010	Nipple	Nipple	
2350 Adobe Rd	11/1/2003	10/2/2010	1"	Dris	Hose clamp
520 Rivera Blvd	7/1/1967	10/2/2010	1"	Dris	Brass nipple & 45'
212 Palm Ave	7/1/1970	10/4/2010	Nipple	Nipple	Replaced nipple and valve
1902 Castle Berry Ln	7/1/1967	10/6/2010	3/4"	Pvc	Replaced coupling and 90'
2011 Rio Grande	7/1/1967	10/6/2010	3/4"	PVC	Replaced male adaptor
2799 Avenida Grande	7/1/1985	10/7/2010	1"	Vanguard	Replaced section
1890 Riverside Dr	7/1/1967	10/8/2010	BV	BV	
658 Church St	3/17/1975	10/8/2010	Nipple	Nipple	
1936 Capistrno Ln	7/1/1967	10/8/2010	3/4"	Abs	Thin wall hit by SWG
1687 Dean Dr	3/17/1975	10/9/2010	Nipple	Nipple	Cust broke nipple trying to make repairs
2767 Calle De Mercado	7/1/1985	10/10/2010	3/4"	Copper	Clamp
2367 Columbus Dr	4/15/2003	10/10/2010	3/4"	Pvc	Had to adjust svc line, coupling broke due to svc replacement
2977 Carefree Dr	4/15/2003	10/10/2010	3/4"	Pvc	Replaced coupling, due to svc replacement
3003 Hwy 95	2/10/1986	10/11/2010	1"	Dris	Replaced clamp
1116 Paseo Pescador	12/31/1967	10/11/2010	Riser	Riser	Raised meter replaced with AMR
2112 Lause Ln	5/9/1980	10/11/2010	BV	BV	
1980 Vader LN	11/1/1990	10/12/2010	BV	BV	
2461 Paseo Cisnie	7/2/1971	10/12/2010	3/4"	Gasket	Pulled meter on a NPOFF, leaking at gasket
2990 Camino Del Rio	7/30/1992	10/12/2010	Gasket	Gasket	
1865 Del Norte Dr	7/1/1967	10/13/2010	Nipple	Nipple	replaced nipple and vale/ left off

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2306 Acoma Pl	7/1/1972	10/13/2010	1"	Dris	Clamp
1905 Del Norte Dr	7/1/1967	10/13/2010	Cust	Cust	Erice from PHX was changing out meter and broke cust side plumbiubg
1485 Bryan Dr	6/23/1968	10/13/2010	1"	Dris	Clamp
1197 Chippewa Dr	7/1/1972	10/13/2010	1"	Dris	Clamp
1594 Lincoln LN	1/19/1966	10/15/2010	BV	BV	
321 Moser Ave	12/1/2004	10/16/2010	BV	BV	Customer broke our valve trying to turn water on
1716 Williams DR	9/3/1971	10/18/2010	1"	Pvc	Replace vavle and flow lock under tee
1966 Morning Glory Trl	7/1/1959	10/18/2010	1"	Abs	Clamp
913 Safari Dr	7/1/1967	10/18/2010	1"	Abs	Replaced tee and vales
694 Roadrunner Dr	3/17/1975	10/18/2010	Gasket	Gasket	
316 River Glen Dr	7/1/1970	10/19/2010	3/4"	Dris	Clamp
1133 Baseline Rd	1/16/1968	10/19/2010	3/4"	Mtr Coup	
748 Holly St	3/17/1975	10/20/2010	1"	Pvc	NPL hit marked svc line
1894 Sea Breeze Ln	7/1/1959	10/20/2010	1"	Pvc	Replaced tee and valves
1096 Jocabima Dr	4/28/1972	10/20/2010	1"	Pvc	Replaced tee and valves
964 Harbor Dr	11/1/1990	10/21/2010	BV	BV	
831 Church St	2/5/1973	10/21/2010	1"	Pvc	Replaced tee and valves
1912 Oliver Dr	7/1/1967	10/21/2010	3/4"	Galv	PHX crew broke cust side plumbing
488 Emery Dr	10/6/1993	10/22/2010	BV	BV	
2692 Avenida Grande	7/1/1985	10/25/2010	BV	BV	
2371 Seminole Dr	7/1/1972	10/25/2010	1"	Dris	Replaced section
1932 Riverside Dr	7/1/1967	10/25/2010	3/4"	PVC	Replaced 90'
561 Ramar RD	4/10/1974	10/25/2010	BV	BV	
1903 Monterey Dr	7/1/1967	10/25/2010	BV	BV	
625 Roadrunner Dr	3/17/1975	10/25/2010	Nipple	Nipple	NPL broke nipple
2631 Sanctuary Dr	12/12/2004	10/26/2010	1"	Dris	Repl sect at tee
2537 Majestic Way	1/22/2001	10/26/2010	1"	Dris	Clamp
1725 Bluebonnet Blvd	3/17/1975	10/27/2010	BV	BV	
616 Hancock Rd	7/1/1967	10/27/2010	BV	BV	
763 Riverfront Dr	2/5/1973	10/27/2010	BV	BV	
1799 Rolando Dr	7/1/1959	10/27/2010	BV	BV	Angle Valve
1895 Arena Dr	9/3/1971	10/27/2010	BV	BV	
500 Sea Spray Dr	7/1/1967	10/27/2010	Nipple	Nipple	Replaced nipple and valve
1871 Artesia Dr	7/1/1967	10/27/2010	BV	BV	Angle Valve
1089 Navajo Dr	7/1/1972	10/28/2010	BV	BV	
609 Malibu	7/1/1967	10/30/2010	1"	Dris	Clamp
170 Lee Ave	7/1/1970	11/1/2010	3/4"	Pvc	Cust side broke after replaceing svc line
2571 Majestic Way	1/22/2001	11/2/2010	1"	Vanguard	Clamp
2706 Sanctuary Dr	6/3/2005	11/2/2010	1"	Dris	Clamp
1051 Jocabima Dr	4/28/1972	11/2/2010	1"	Vanguard	Replaced section
1009 Jocabima Dr	4/28/1972	11/2/2010	1"	Vanguard	Replaced section
1109 Copper RD	7/1/1982	11/5/2010	BV	BV	
2567 Sonora DR		11/5/2010	1"	Vanguard	Clamp
1730 Palma RD	6/7/1966	11/6/2010	3/4"	Dris	Hose clamp/ Gasket
1081 Sahuaro Dr	7/1/1955	11/8/2010	1"		
478 Church St	7/1/1980	11/9/2010	1"	Pvc	Nipple & meter valve, Hit by NPL
2350 Adobe Rd	11/1/2003	11/9/2010	1"	Vanguard	Clamp
1800 Clubhouse Dr	7/1/1979	11/9/2010	1 1/2"	PVC	Flow lock / Valve
2960 Silver Creek Rd		11/10/2010	BV	BV	
1964 Diamond Dr	7/1/1967	11/11/2010	BV	BV	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1924 Arcadia Cir	10/28/1975	11/12/2010	Nipple	Nipple	Nipple and valve
2685 Sanctuary Dr	12/12/2004	11/12/2010	3/4"	Pvc	Cust side leak from service replacement, had to fix leak
1717 El Cazador	7/1/1985	11/12/2010	1"	Dris	Clamp
1932 Colorado Blvd	7/1/1967	11/12/2010	3/4"	Dris	Hose clamp/ Gasket
Mobile Ln IRRIG		11/12/2010	1"	Vanguard	Replaced section
1905 Riverside Dr	7/1/1967	11/13/2010	Nipple	Nipple	Nipple & Valve
2989 Carefree Dr	7/1/2008	11/14/2010	1"	Dris	Clamp
883 Riverfront Dr	4/28/1972	11/15/2010	1"	PVC	Replaced street L
2807 Colibri Ct	7/1/1985	11/15/2010	2"	Pvc	Cust hit Manifold with Pick
574 Riverview Dr	7/1/1967	11/15/2010	MTR Coup	Mtr Coup	Replaced coupling, Cust side
574 Malibu Cir S.	7/1/1967	11/16/2010	3/4"	Dris	Leaking after tee
1111 Zircon Dr	8/22/1967	11/16/2010	BV	BV	
2350 Adobe Rd	11/1/2003	11/16/2010	1"	Dris	Clamp
2031 Lause Bay	5/9/1980	11/17/2010	BV	BV	
1940 Granada Dr	7/1/1967	11/17/2010	3/4"	Pvc	PHX crew broke cust side plumbing
1920 Granada Dr	7/1/1967	11/17/2010	Nipple	PVC	Replaced nipple / Valve
1456 Rio Vista Dr	3/2/1971	11/17/2010	Nipple	Nipple	
1990 Ramar RD	9/3/1971	11/17/2010	BV	BV	
843 Sea Spray Dr	7/1/1959	11/17/2010	BV	BV	
1840 Del Norte Dr	7/1/1967	11/17/2010	3/4"	PVC	replaced section of pipe leak due to Roots
451 Stieger Dr	7/1/1967	11/17/2010	Nipple	Nipple	replaced nipple and valve
912 Swan Dr	7/1/1967	11/17/2010	1"	Pvc	Replaced tee and valves
505 Coral Reef Dr	7/1/1967	11/17/2010	3/4"	Pvc	PHX crew broke cust side plumbing
2463 Sabino Dr	9/1/2004	11/18/2010	1"	Dris	Clamp
1052 Palo Verde Dr	7/1/1955	11/18/2010	1"	Dris	Replaced section hit by NPL
1601 Lynn Dr	3/17/1975	11/18/2010	1"	PVC	Replaced tee and valves
1964 Diamond Dr	7/1/1967	11/18/2010	3/4"	PVC	Cust side broke after meter change was done
738 Morro Cv	7/1/1967	11/19/2010	1"	PVC	Had to redo cust pipeing from meter box to to Mobile, line was galv and kept breaking
1793 Tejon Dr	7/1/1959	11/21/2010	1"	Pvc	Bushing
924 Baseline Rd	12/29/1980	11/22/2010	BV	BV	
1907 Clearwater Dr	7/1/1967	11/23/2010	3/4"	PVC	Cust side broke after meter change was done
1710 Emerald Dr	6/7/1966	11/23/2010	1"	PVC	Replaced tee and valves
1620 Balsa Rd	9/3/1971	11/23/2010	Bushing	PVC	Replaced bushing and valve
269 Riverfront Dr	7/1/1980	11/24/2010	Nipple	Nipple	
1124 Papago Dr	7/1/1972	11/24/2010	1"	Dris	Clamp
1011 Merrill Ct	7/1/1982	11/24/2010	3/4"	Dris	Clamp
1936 Ramar RD	9/3/1971	11/24/2010	Gasket	Gasket	Our side
1961 Sea Breeze Ln	7/1/1959	11/27/2010	BV	BV	Replaced valve leaking
1127 Paseo Pescador	12/31/1967	11/29/2010	BV	BV	
820 Church St	2/5/1973	11/29/2010	BV	BV	
2350 Miracle Mile Rd	5/11/1989	11/29/2010	BV	BV	2" angle Valve
648 Roadrunner Dr	3/17/1975	11/29/2010	BV	BV	
1094 Chapparral Dr	7/2/1971	11/29/2010	BV	BV	
2158 Kingston Dr	7/1/1967	11/29/2010	BV	BV	Angle Valve
793 Baseline Rd	2/5/1973	11/30/2010	2"	Pvc	Replaced 90 to Valave
1490 Church St	5/7/1969	11/30/2010	BV	BV	
2459 Sabino Dr	9/1/2004	11/30/2010	1"	Vanguard	Clamp
1008 Palo Verde Ave	7/1/1955	12/1/2010	Nipple	Nipple	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1443 Palo Verde Dr		12/1/2010	1"	Dris	Replaced section
1425 Paradise Ln	7/1/1955	12/2/2010	1"	Dris	Replaced section
776 Morrow Cv	7/1/1967	12/2/2010	1"	PVC	Replaced tee and valves
2435 Frontier Ln	9/1/2004	12/2/2010	1"	Dris	Hose clamp & Gasket
1649 Alta Vista Ln	6/2/1970	12/2/2010	BV	BV	
780 Riverfront Dr	2/5/1973	12/2/2010	1"	Pvc	Replaced section, hit by NPL with shovel
2271 Starflower Trl	5/29/1997	12/2/2010	1"	Dris	Clamp
2952 Country Club Dr	5/9/1980	12/2/2010	BV	BV	
1225 Puerta Vista	12/31/1964	12/3/2010	BV	BV	Replaced ball valve, and small leak cust side coupling
1375 Navajo Dr	7/1/1972	12/4/2010	2"	Pvc	Replaced section
1928 Merced Dr	7/1/1967	12/6/2010	Riser	Riser	Leaking valve on riser
969 Skippers Cv	7/1/1967	12/6/2010	BV	BV	
902 Riverfront Dr	4/28/1972	12/6/2010	1"	PVC	Rebuilt section to meters
1880 Sea Breeze Ln	7/1/1959	12/7/2010	Nipple	Nipple	
2458 Merrill Ave	7/1/1982	12/8/2010	3/4"	Dris	Replaced section to tee
2420 Merrill Ave	7/1/1982	12/8/2010	3/4"	Dris	Replaced section
1325 Riverfront Dr	6/23/1968	12/8/2010	BV	BV	
1395 Zircon Dr	7/6/1982	12/8/2010	BV	BV	
246 Tanglewood Ln	7/1/1967	12/9/2010	BV	BV	Angle Valve
1787 Coral Reef Dr	7/1/1967	12/9/2010	3/4"	Pvc	Cust side broke from meter change, had to replaced Galv with PVC
2423 Frontier Ln	9/1/2004	12/10/2010	1"	Dris	Clamp
2895 Country Club Dr	5/9/1980	12/10/2010	1"	Pvc	Replaced saddle and section of Pvc
1681 Balsa Rd	9/3/1971	12/10/2010	1"	Pvc	Replaced tee and valves
788 Terrace Dr	2/5/1973	12/11/2010	1"	PVC	NPL hit Tee with steel plate
632 Palo Verde	3/17/1975	12/13/2010	BV	BV	
1813 Arrowhead Dr	7/1/1967	12/14/2010	BV	BV	Olianders roots
1793 Artesia Dr	7/1/1967	12/14/2010	Coupling	Coupling	Meter coupling/ ourside
1960 Oliver Dr	7/1/1967	12/15/2010	BV	BV	
2228 Balboa Dr	7/1/1967	12/16/2010	1 1/4"	Abs	Leaking from Gate valve in saddle
1940 Highway 95	4/14/1968	12/16/2010	BV	BV	
235 Palm Ave	7/1/1970	12/18/2010	BV	BV	
529 Mead Ln	7/1/1967	12/19/2010	3/4"	Coupling	Cust side from recent meter change
1843 El Monte Dr	7/1/1967	12/20/2010	BV	BV	
2390 Hummingbird PL	7/1/1960	12/20/2010	1"	Grey Abs	
1930 Vader Ln	11/1/1990	12/21/2010	BV	BV	
235 Palm Ave	7/1/1970	12/23/2010	Nipple	Nipple	Rebuilt in Brass
455 Coral Reef Dr	7/1/1967	12/27/2010	Nipple	Nipple	
422 Whitewater Dr	7/1/1967	12/27/2010	BV	BV	
1495 Church St	5/7/1969	12/28/2010	Gasket	Gasket	Cust side
902 Riverfront Dr	4/28/1972	12/29/2010	1"	Pvc	Replaced section
902 Riverfront Dr	4/28/1972	12/29/2010	Saddle	Saddle	Plugged saddle
1780 Rollando Dr	7/1/1959	12/29/2010	BV	BV	
2894 Winchester Dr	5/9/1996	12/29/2010	BV	BV	Angle Valve
2887 Country Club Dr	5/9/1980	1/3/2011	Nipple	Nipple	
2350 Adobe Rd	11/1/2003	1/3/2011	1"	Vanguard	Clamp
1181 Hancock Rd	2/21/1966	1/3/2011	1"	PVC	Tighten Flow lock
598 Holly St	4/10/1974	1/4/2011	BV	BV	
960 Ramar Rd	4/28/1972	1/4/2011	BV	BV	
783 Riverfront Dr	2/5/1973	1/4/2011	Nipple	Nipple	
1411 Plata Dr	3/2/1971	1/5/2011	BV	BV	
1402 Luna Ln	3/2/1971	1/5/2011	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1682 Arena Dr	3/2/1971	1/5/2011	3/4"	Pvc	Nipple broke due to Roots
2426 Merrill Ave	7/1/1982	1/7/2011	3/4"	Vanguard	Replaced section from tee to meter
1381 Trane Rd	5/7/1969	1/8/2011	3/4"	Mtr Coup	Tighten Coupling
2078 Kingston Dr	7/1/1967	1/8/2011	3/4"	Pvc	Cust side broke after a meter change
1726 Ramar Rd	9/3/1971	1/10/2011	BV	BV	
1662 Ramar Rd	6/2/1970	1/10/2011	BV	BV	
607 Citrus St	4/10/1974	1/11/2011	BV	BV	
1191 Quartz Ave	2/21/1966	1/11/2011	1 1/2"	PVC	Replaced tee off on Main
2110 Santa Cruz Ave	7/1/1967	1/12/2011	3/4"	Brass	Replaced Grip fitting with Pack joint
2019 Highway 95	7/1/1972	1/12/2011	1"	BV	Replaced old 1/1/2" ball valve
2040 Swan Cir	7/1/1967	1/15/2011	1"	Pvc	Replaced section cust was removing tree
887 San Juan Cir	7/1/1967	1/17/2011	Nipple	Nipple	
786 Roadrunner Dr	2/5/1973	1/17/2011	1"	Pvc	Replaced section
1949 Riverbend Cir W	7/1/1967	1/18/2011	Riser	Riser	Replaced meter riser
721 Citrus St	3/17/1975	1/24/2011	BV	BV	
1704 Bluebonnet Blvd	3/17/1975	1/25/2011	Gasket	Gasket	
1778 Colorado Blvd	7/1/1967	1/25/2011	BV	BV	
3069 Sienna Dr	7/1/2008	1/25/2011	1"	Vanguard	Clamp
1228 Lause Ln	5/9/1980	1/25/2011	BV	BV	
1891 Riviera Blvd	7/1/1959	1/26/2011	BV	BV	Angle Valve
1187 Quartz Ave	2/21/1966	1/26/2011	1 1/2"	Pvc	Replaced tee
556 Swan Dr	7/1/1967	1/27/2011	1 1/4"	Brass	Stem on 1 1/4" gate valve broke
549 Havasu Ln	7/1/1967	1/27/2011	3/4"	BV	
785 Morro Cv	7/1/1967	1/27/2011	Riser	Riser	
1671 Rio Vista Dr	9/3/1971	1/27/2011	Nipple	Nipple	replaced nipple and valve
2515 Valley Vista	7/1/1985	1/28/2011	1"	Vanguard	Clamp
2518 Country Club Dr	5/6/1969	1/31/2011	Riser	Riser	Replaced two risers
1635 Ramar Rd	6/2/1970	1/31/2011	Riser	Riser	leak on Riser and nipple
911 Palo Verde	4/28/1972	1/31/2011	1"	Pvc	Replaced section
2575 Via Arroyo	12/31/1964	1/31/2011	1 1/4"	Pvc	Replaced section
2250 Highway 95	6/1/1986	1/31/2011	2"	Pvc	Replaced section
527 Palo Verde	4/10/1974	2/1/2011	Nipple		
2641 Paloma Senda	7/1/1985	2/3/2011	1"	Dris	Clamp
3002 Milano Dr	7/1/2008	2/3/2011	1"	Pvc	Replaced cust side plumbing due to our svc replacement
1869 Rio Grande		2/3/2011	BV	BV	
955 Roadrunner Dr	4/28/1972	2/7/2011	1"	Pvc	Replaced tee and valaves
841 Turney Dr	2/5/1973	2/8/2011	1"	Pvc	NPL hit unmarked tee in vacant lot
1811 Forest Dr	7/1/1967	2/8/2011	Nipple	Nipple	
1453 Trane Rd	6/23/1968	2/10/2011	1"	Abs	NPL hit Marked svc line
922 Turney Dr	4/28/1972	2/11/2011	1"	PVC	
1261 Riverfront Dr	6/23/1968	2/11/2011	Riser	Riser	Replaced meter riser
1260 Camino Del Rio		2/11/2011	1"	Pvc	Tighten Valve leak stopped
712 Primrose Ln	7/1/1959	2/14/2011	Nipple	Nipple	
1905 Riverside Dr	7/1/1967	2/16/2011	1"	Brass	replaced nipple and valve
1932 Oliver Dr	7/1/1967	2/16/2011	BV	BV	
2370 Crimson Rd	4/15/2003	2/17/2011	3/4"	Vanguard	Clamp
2874 Grandhill Rd	9/15/1990	2/17/2011	1"	Vanguard	Clamp
1457 Arena Dr	3/2/1971	2/17/2011	3/4"	Pvc	Replaced tee and valves
736 Roadrunner Dr	2/5/1973	2/17/2011	BV	BV	
941 Harbor Dr	11/1/1990	2/21/2011	BV	BV	Two BV
350 Harbor PL	7/1/1967	2/22/2011	3/4"	Dris	Replaced section
2020 Kingston Dr	7/1/1967	2/25/2011	1"	Pvc	Flow lock / Valve

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2262 Riverview Cir W	7/1/1972	2/28/2011	Riser	Riser	
2449 Merrill Ave	7/1/1982	3/2/2011	3/4"	Dris	Hose clamp
270 Lee Ave	7/1/1970	3/2/2011	3/4"	Dris	Hose clamp
886 Citrus St	4/28/1972	3/3/2011	1"	Pvc	Replaced section
2286 Kaibab Dr	7/1/1960	3/3/2011	1"	Dris	Clamp
2435 Frontier Ln	9/1/2004	3/8/2011	1'	Dris	Clamp
2089 Buccaneer Dr	7/1/1967	3/8/2011	3/4"	Copper	Flair fitting leaking,
829 Hancock Rd	12/5/1973	3/8/2011	1"	Dris	Clamp
678 Terrace Dr	3/17/1975	3/8/2011	BV	BV	
1686 Alta Vista Dr		3/8/2011	3/4"	Mtr Coup	cust side
932 Holly St	4/28/1972	3/10/2011	1"	Pvc	Replaced section
936 Citrus St	4/28/1972	3/12/2011	1"	Pvc	Replaced tee and valves
804 Roadrunner Dr	2/5/1973	3/12/2011	1"	Pvc	Replaced tee and valves
390 Church St	7/1/1980	3/14/2011	1"	Dris	Replaced section
2098 Bermuda Dr	7/1/1967	3/16/2011	1"	Pvc	Replaced tee and valves
1115 Avienda De Las Estrellas	7/1/1969	3/17/2011	1 1/4"	Abs	Hose clamp
732 Primrose Ln	7/1/1959	3/17/2011	BV	BV	
967 Riverfront Dr	4/28/1972	3/17/2011	Nipple	Nipple	
1998 Riverbend Cir W	7/1/1967	3/17/2011	1"	Dris	Clamp
247 Willowood Ln	7/1/1967	3/17/2011	BV	BV	
408 Emery Dr	10/6/1993	3/17/2011	BV	BV	
1824 Del Norte Dr	7/1/1967	3/17/2011	BV	BV	
2289 Soaring Eagle Dr	12/16/2003	3/21/2011	1"	Brass	Replaced brass coupling
1360 Quarts Ave	6/7/1966	3/22/2011	BV	BV	
358 Meander Dr	7/1/1967	3/22/2011	BV	BV	
3003 Hwy 95	2/10/1986	3/22/2011	1"	Dris	Clamp
2956 Coountry Club Dr	5/9/1980	3/23/2011	1"	Pvc	Replaced tee and valves
878 La Jolla Dr	7/1/1967	3/23/2011	1"	PVC	Replaced section and tee
2350 Adobe Rd	11/1/2003	3/25/2011	1"	Vanguard	Clamp
1618 Shamrock Rd	7/6/1982	3/28/2011	Riser	Riser	Replaced riser
931 Captains Cove	7/1/1967	3/29/2011	1"	Vanguard	Clamp
2646 Sanctuary Dr	12/12/2004	3/29/2011	1"	Vanguard	Clamp
631 Terrace Dr	3/17/1975	3/31/2011	BV	BV	
267 Trinidad Dr		3/31/2011	Nipple	Nipple	
2106 Catalina Dr	7/1/1967	4/1/2011	1"	Abs	Replaced section
2384 Merrill Ave	7/1/1982	4/4/2011	Riser	Riser	Hose clamp
1091 Copper Dr	7/1/1982	4/4/2011	3/4"	Dris	Replaced section
2348 Merrill Ave	7/1/1982	4/4/2011	3/4"	Dris	Hose clamp
1539 Monte Vista Dr	6/2/1970	4/4/2011	2"	Pvc	Replaced cracked 90'
1947 Merced Dr	7/1/1967	4/4/2011	3/4"	Pvc	Replaced broken street 90'
773 Riverview Dr	7/1/1967	4/5/2011	BV	BV	
636 Terrace Dr	3/17/1975	4/5/2011	Nipple	Nipple	
2555 Corona Redondo	7/1/1985	4/7/2011	1"	Dris	Hose clamp
1579 Mohave Dr	8/8/1985	4/7/2011	1"		
2011 Swan Pl		4/8/2011	1"	Pvc	Replaced tee and valve
1564 Paige Dr	4/10/1974	4/12/2011	1"	Dris	Replaced section
2022 Merrill Ln	7/1/1982	4/14/2011	2"	Pvc	2" manifold
1695 Yale Dr	3/17/1975	4/18/2011	1"	Pvc	Replaced saddle and small section of svc line
2574 Via Arroyo	5/6/1969	4/18/2011	Riser	Riser	Replaced riser
921 Holly St	4/28/1972	4/20/2011	1"	Pvc	Replaced saddle and small section of svc line
631 Roadrunner Dr	3/17/1975	4/21/2011	BV	BV	Cust broke our nipple

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
921 Holly St	4/28/1972	4/21/2011	1"	Pvc	Replaced setion with Poly
1373 Baseline Rd	6/23/1968	4/22/2011	1"	Vanguard	Clamp
2610 Paloma Senda	7/1/1985	4/22/2011	1"	Dris	Clamp
1085 Chapparral Dr	7/2/1971	4/22/2011	Riser	Riser	
2594 Via Arroyo	5/6/1969	4/25/2011	BV	BV	
2606 Via Arroyo	7/1/1972	4/25/2011	Nipple	Nipple	
2700 Country Club Dr	7/1/1972	4/25/2011	BV	BV	
951 Holly St	4/28/1972	4/25/2011	1"	Pvc	Replaced section
1959 Robson Cir W	7/1/1967	4/25/2011	BV	BV	
1967 Riverbend Cir W	7/1/1967	4/26/2011	BV	BV	
491 Marina Blvd	7/1/1967	4/26/2011	BV	BV	
2381 Castle Rock Cir	7/1/1967	4/26/2011	3/4"	Pvc	Replaced bushing
1946 Orca Ln	7/1/1967	4/26/2011	Mtr Gask	Gasket	
1857 Riverside Dr	7/1/1967	4/26/2011	BV	BV	
1819 Cyprus Ln	7/1/1967	4/26/2011	Mtr Gask	Gasket	
1905 Riverside Dr	7/1/1967	4/26/2011	Nipple	Nipple	
1926 Robson Cir W	7/1/1967	4/26/2011	Mtr Gask	Gasket	Tighten
1932 Robson Cir E	7/1/1967	4/26/2011	3/4"	Tuff Tube	Replaced section Flow lock & valve
1937 Merced Dr	7/1/1967	4/26/2011	Mtr Gask	Gasket	
1963 Rio Grande	7/1/1967	4/26/2011	3/4"	Dris	Clmap
1830 Rio Grande Way	7/1/1967	4/26/2011	Mtr Gask	Gasket	
950 Holly St	4/28/1972	4/26/2011	Nipple	Nipple	
1967 Riverbend Cir W	7/1/1967	4/26/2011	BV	BV	Angle valve
2229 Colorado Blvd		4/27/2011	BV	BV	
922 Safari Dr	7/1/1967	4/27/2011	BV	BV	
470 Steiger Dr	7/1/1967	4/27/2011	BV	BV	
1801 Paseo De Playa	7/1/1959	4/27/2011	BV	BV	
1825 Tejon Dr	7/1/1959	4/27/2011	BV	BV	
1206 Church St	10/31/1968	4/27/2011	BV	BV	
1230 Silica Cir	1/16/1968	4/27/2011	Mtr Gask	Gasket	
2938 Camino Del Rio	5/9/1980	4/27/2011	BV	BV	
2048 Gregg Ln	7/1/1967	4/27/2011	1"	Abs	Replaced section
795 Citrus St	2/5/1973	4/27/2011	BV	BV	
2512 Country Club Dr	5/6/1969	4/28/2011	3/4"	Pvc	Replaced tee and vales
769 Morro Cv	7/1/1967	4/28/2011	BV	BV	
810 Safari Dr	7/1/1967	4/28/2011	BV	BV	
2149 Balboa Dr	7/1/1967	4/28/2011	BV	BV	
2288 Acoma Pl	7/1/1972	4/28/2011	BV	BV	
1479 Bryan Dr	6/23/1968	4/28/2011	1"	Copper	Clamp
2663 Paloma Senda	7/1/1985	4/28/2011	1"	Dris	Replaced section
1092 Copper Dr	7/1/1982	4/28/2011	1"	Dris	Clamp
1959 Robson Cir W	7/1/1967	4/28/2011	3/4"	Pvc	Replaced street Ell
2539 Country Club Dr	5/6/1969	4/29/2011	Gasket	Gasket	
941 Church St	4/28/1972	4/29/2011	Nipple	Nipple	
Adobe Rd		4/29/2011	1"	Dris	Clamp
961 Holly St	4/28/1972	5/2/2011	1"	Pvc	Replaced tee and valves
2286 Kaibab Dr	7/1/1960	5/2/2011	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	5/2/2011	1"	Dris	Clmap
2960 Silver Creek Rd		5/2/2011	BV	BV	
912 Church St	4/28/1972	5/2/2011	1"	Pvc	Replaced tee and valves
2430 Ripple Dr	7/1/1970	5/3/2011	BV	BV	
2808 Colibri Ct	7/1/1985	5/4/2011	BV	BV	
2808 Colbri Ct	7/1/1985	5/4/2011	BV	BV	
2806 Colbri Ct	7/1/1985	5/4/2011	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
806 Colbri Ct	7/1/1985	5/4/2011	BV	BV	
1224 Lause Rd	5/9/1980	5/5/2011	Nipple	Nipple	
2420 Merrill Ave	7/1/1982	5/5/2011	BV	BV	
2449 Merrill Ave	7/1/1982	5/5/2011	3/4"	Dris	
1731 Yale Dr	3/17/1975	5/5/2011	1"	Pvc	Replaced tee and valves
1379 Rubel Ln	6/23/1968	5/6/2011	1"	Dris	Clamp
1731 Yale Dr	3/17/1975	5/8/2011	1"	Pvc	Replaced section/ Female adaptor
975 Church St	4/28/1972	5/9/2011	1"	Pvc	
473 Roadrunner Dr	7/1/1980	5/9/2011	1"	Dris	Clamp
1850 Del Norte Dr	7/1/1967	5/9/2011	1"	Pvc	
201 Riverfront Dr	7/1/1980	5/9/2011	2"	Pvc	Replaced section behind meter, Broke after MTR change
1652 Ramar Rd	6/2/1970	5/9/2011	BV	BV	
2706 Sanctuary Dr	6/3/2005	5/9/2011	1"	Vanguard	Clamp
1630 Ramar Rd	6/2/1970	5/10/2011	BV	BV	
1230 Silica Ave	1/16/1968	5/10/2011	BV	BV	
1547 Lincoln Ln	1/19/1966	5/10/2011	BV	BV	
1384 Winker Ln	6/23/1968	5/10/2011	BV	BV	
1282 Zircon Ave	1/19/1966	5/10/2011	Mtr Gask	Mtr Coup	
1631 Talc Rd	6/2/1970	5/10/2011	BV	BV	
1453 Tonto Dr	5/7/1969	5/10/2011	BV	BV	
1630 Ramar RD	6/2/1970	5/10/2011	BV	BV	
875 Holly St	4/28/1972	5/10/2011	BV	BV	
775 Roadrunner Dr	2/5/1973	5/10/2011	1"	Pvc	Replaced PVC with Brass tee and valves
790 Roadrunner Dr	2/5/1973	5/10/2011	BV	BV	
1373 Mirada Dr	5/7/1969	5/10/2011	Riser	Riser	Replaced riser
1949 Merced Dr	7/1/1967	5/11/2011	1"	Copper	Replaced section
815 Stahlman Dr	2/5/1973	5/11/2011	BV	BV	
967 Hancock Rd	4/28/1972	5/11/2011	1"	Dris	Clamp
1096 Highway 95	7/1/1970	5/11/2011	1"	Brass	Bad falir fitting
871 Palo Verde	2/5/1973	5/12/2011	Nipple	Nipple	
357 Anna Cir	7/1/1980	5/12/2011	BV	BV	
1452 Colina Dr	10/28/1975	5/12/2011	Riser	Riser	Replaced riser
860 Stahlman Dr	2/5/1973	5/12/2011	BV	BV	
2530 Adobe Rd		5/12/2011	1"	Vanguard	Clamp
2701 Sanctuary Dr	12/12/2004	5/15/2011	1"	Vanguard	Clamp
1695 River Gardens Dr	2/5/1973	5/16/2011	1"	Pvc	Tighten Flow lock
270 Lee Ave	7/1/1970	5/16/2011	3/4"	Dris	
1190 Highway 95	7/1/1970	5/16/2011	BV	BV	
1932 Robson Cir E	7/1/1967	5/16/2011	3/4"	Pvc	Had to rebuild cuet side from break
2114 Santa Cruz Ave	7/1/1967	5/16/2011	BV	BV	
1093 Mobile Ln	7/1/1955	5/17/2011	1"	Vanguard	Clamp
2350 Adobe Rd	11/1/2003	5/17/2011	1"	Dris	Hose clamp
1980 Vader Ln	11/1/1990	5/18/2011	3/4"	Dris	Replaced section
1780 El Cazador	7/1/1985	5/18/2011	1"	Dris	Two Clamps
2280 Merrill Ave	7/1/1982	5/19/2011	3/4"	Dris	Clamp
2090 Hermosa Dr	7/1/1967	5/19/2011	1"	Abs	Replaced section
2022 First St		5/19/2011	Riser	Riser	
890 Surf Spray Dr	1/26/1987	5/20/2011	BV	BV	
2160 Lause Ln	5/9/1980	5/20/2011	Nipple	Nipple	
775 Roadrunner Dr	2/5/1973	5/20/2011	1"	Pvc	Replaced bushing
551 Silver Ln	7/1/1967	5/20/2011	Nipple	Nipple	Broke from previous meter change
1393 Winkler In	6/23/1968	5/20/2011	Riser	Riser	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1663 Highway 95	7/1/1982	5/20/2011	2"	BV	Replaced 2" valve and meter
1929 Orca Ln	7/1/1967	5/20/2011	Riser	Riser	
1785 Sea Creek Dr	7/1/1967	5/20/2011	BV	BV	
924 San Juan	7/1/1967	5/20/2011	Mtr Coup	Mtr Coup	Coupling on company side
2919 Camino Del Rio	5/9/1980	5/20/2011	BV	BV	
2882 Moonlight Dr	6/6/1996	5/23/2011	Mtr Gask	Mtr Gask	
2327 Silverthorne Dr	5/30/2006	5/23/2011	1"	Dris	Clamp
2350 Miracle Mile Rd	5/11/1989	5/23/2011	Mtr Gask	Mtr Gask	
2964 Camino Del Rio	5/9/1980	5/23/2011	1"	Pvc	Tighten Flow lock under tee
778 Morro Cv	7/1/1967	5/23/2011	BV	BV	
2544 Majestic Way	1/22/2001	5/23/2011	1"	Vanguard	Clamp
919 San Juan Ct	7/1/1967	5/23/2011	3/4"	Pvc	Rebuilt svc to meters
2578 Avenida Grande	7/1/1985	5/24/2011	1"	Dris	Clamp
1684 Ramar Rd	9/3/1971	5/24/2011	1"	Pvc	Clamp
2610 Paloma Senda	7/1/1985	5/24/2011	1"	Vanguard	Clamp
1245 Hancock Rd	2/21/1966	5/25/2011	2"	Pvc	Customer side broke after 2" meter change
831 Brill Ave	2/5/1973	5/26/2011	1"	Pvc	Replaced saddle and copr leaking at Tee by main
1379 Riverfront Dr	6/23/1968	5/27/2011	Mtr Coup	Mtr Coup	Cust side MTR coupling was bad
880 Glen Rd	4/28/1972	5/27/2011	Nipple	Nipple	
1701 Highway 95	7/1/1982	5/31/2011	3/4"	BV	
1752 Arriba Dr		6/1/2011	2"	Pvc	Male Adapt after ball valve
1054 Papago Dr	7/1/1972	6/1/2011	Riser	Riser	
2376 Rio DR	7/1/1970	6/2/2011	3/4"	Copper	Replaced 90'
2268 Merrill Ave	7/1/1982	6/3/2011	3/4"	Dris	Hose clamp
2356 Merrill Ave	7/1/1982	6/3/2011	3/4"	Dris	Clamp
1412 Monte Vista Dr	3/2/1971	6/3/2011	BV	BV	
551 Silver Ln	7/1/1967	6/4/2011	3/4"	Pvc	Replaced bushing
2898 Rolling Hills		6/5/2011	1"	Vanguard	Clamp
2284 Merrill Ave	7/1/1982	6/6/2011	3/4"	Dris	Hose clamp
1101 &1103 Copper Dr	7/1/1982	6/6/2011	1"	Dris	Replaced svc from tee
1071 Holly St	10/31/1968	6/7/2011	BV	BV	
631 Terrace Dr	3/17/1975	6/7/2011	3/4"	Pvc	Replaced customer side Check valve broke after meter change
1707 Hwy 95		6/8/2011	3/4"	Pvc	Replaced 45' car ran over box
915 San Juan Ct	7/1/1967	6/9/2011	BV	BV	
2480 Sonoma Dr	7/1/2008	6/11/2011	1"	Vanguard	Clamp
1964 Rio Grande Dr	7/1/1967	6/13/2011	BV	BV	
1453 Trane Rd	6/23/1968	6/13/2011	1"	Abs	Replaced section
847 Baseline Rd	2/5/1973	6/13/2011	BV	BV	
2618 Discovery Rd	12/12/2004	6/13/2011	1"	Dris	Replaced clamp
1701 Hwy 95	7/1/1982	6/15/2011	BV	BV	
1479 Orilla Dr	3/2/1971	6/16/2011	1"	Abs	Replaced section hit by NPL
1461 Orilla Dr	3/2/1971	6/16/2011	1"	Abs	Replaced section hit by NPL
2381 Castle Rock Cir	7/1/1967	6/17/2011	3/4"	Pvc	Replaced 90' bend
2250 Starflower Trl	5/29/1997	6/17/2011	1"	Dris	Clamp
2591 Avenida Grande	7/1/1985	6/19/2011	1"	Dris	Clamp
775 Roadrunner Dr	2/5/1973	6/20/2011	1"	Pvc	Replaced tee and valves
804 Roadrunner Dr	2/5/1973	6/20/2011	1"	Pvc	Replaced bushing at Tee
701 Primrose Ln	7/1/1959	6/21/2011	BV	BV	
622 Riverfront Dr	3/17/1975	6/21/2011	3/4"	Pvc	NPL ran over box replaced nipple and valve
919 Harbor Dr	11/1/1990	6/21/2011	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2105 Catalina Dr	7/1/1967	6/21/2011	3/4"	Pvc	Replaced nipple and valve
1725 Corona Vista	7/1/1985	6/21/2011	1"	Vanguard	Clamp
1854 Monterey Dr	7/1/1967	6/22/2011	1"	Pvc	Roots broke svc at saddle, Rebuilt svc
2270 E Riverview Cir	7/1/1972	6/23/2011	BV	BV	
2260 Lakeside Dr	7/1/1972	6/23/2011	BV	BV	
2190 Del Rey Dr	7/1/1967	6/23/2011	1"	Pvc	Replaced male adapt and valve
1802 Paseo De Playa	7/1/1959	6/23/2011	BV	BV	
1471 Arena Ct	3/2/1971	6/23/2011	1"	Pvc	Replaced section
1705 Trane Rd	2/21/1966	6/24/2011	3/4"	Dris	Replaced section
1834 Granada Dr	7/1/1967	6/24/2011	1 1/4"	Abs	Reaplced Male Adapt at saddle
2561 Via Arroyo	12/31/1967	6/24/2011	1 1/2"	Pvc	Replaced valve on svc line
1501 Arena Ct	10/28/1975	6/25/2011	1"	Pvc	Replaced 90' ~ 3' feet away from meters
2274 Merrill Ave	7/1/1982	6/27/2011	1"	Dris	Clamp
1326 Arcadia Blvd	10/28/1975	6/27/2011	1"	Pvc	Replaced male adapt and valve
912 Church St	4/28/1972	6/27/2011	3/4"	Pvc	Replaced bushing
2515 Valley Vista	7/1/1985	6/27/2011	1"	Vanguard	Clamp
2515 Valley Vista	7/1/1985	6/27/2011	1"	Vanguard	Clamp
2738 Springtime Ct	6/3/2005	6/29/2011	1"	Pvc	Replaced 90' at svc tee
2108 Del Rey Dr	7/1/1967	7/1/2011	Mtr Gask	Mtr Gask	
1141 Zircon Ave	1/16/1968	7/1/2011	BV	Nipple	
1379 Rubel Ln	6/23/1968	7/1/2011	1"	Dris	Clamp
902 Terrace Dr	4/28/1972	7/1/2011	3/4"	Mtr Coup	
912 Church St	4/28/1972	7/1/2011	Nipple	Nipple	
1394 Plata Dr	3/2/1971	7/2/2011	Nipple	Nipple	
2227 Del Rey Dr	7/1/1967	7/4/2011	3/4"	Pvc	Coupling splint after meter change
1411 Park Lane	5/7/1969	7/4/2011	3/4"	Pvc	Replaced 90' at svc tee
2208 Balboa Dr	7/1/1967	7/7/2011	BV	BV	
877 Hancock Rd	12/5/1973	7/7/2011	1"	Dris	Clamp
1699 Ramar Rd	9/3/1971	7/7/2011	BV	BV	
194 Lee Ave	7/1/1970	7/8/2011	3/4"	Pvc	Bushing
2779 Paloma Senda	7/1/1985	7/8/2011	1"	Vanguard	Clamp
1556 Paige Dr	4/10/1974	7/11/2011	1"	Dris	Clamp
936 Citrus St	4/28/1972	7/12/2011	1"	Pvc	Replaced 90'
951 Holly St	4/28/1972	7/12/2011	1"	Pvc	Bushing
1676 Arena Dr	3/2/1971	7/12/2011	1"	Pvc	Replaced section hit by NPL
1501 Rio Vista Dr	3/2/1971	7/13/2011	1"	Copper	Replaced section hit by NPL
1894 Sea Breeze Ln	7/1/1959	7/13/2011	Nipple	Nipple	Replaced section to valve
1704 Bluebonnet Blvd	3/17/1975	7/13/2011	BV	BV	
2421 Merrill Ave	7/1/1982	7/13/2011	1"	Dris	Clamp
2972 Ranch house RD	4/15/2003	7/13/2011	1"	Dris	Clamp
1825 Gemstone Ave		7/13/2011	1"	Dris	Clamp
1140 Citrus St	10/31/1968	7/14/2011	1"	Abs	Replaced tee and valves
1710 Highland Rd	2/21/1966	7/14/2011	BV	BV	
2475 Ripple Dr	7/1/1970	7/14/2011	3/4"	Dris	Redman Costr hit unsed svc line
2252 Acoma Pl	7/1/1972	7/14/2011	1"	Dris	Clamp
1795 Forest Dr	7/1/1967	7/16/2011	Riser	Riser	Removed empty lot
1862 Rio Grande Rd	7/1/1967	7/18/2011	BV	BV	
2392 Merrill Ave	7/1/1982	7/18/2011	3/4"	Dris	Clamp
2356 Taos Dr	7/1/1972	7/19/2011	1"	Dris	Replaced section at corp
671 Sea Spray Dr	7/1/1959	7/21/2011	1"	Dris	Clamp
2953 Camino Del Rio	5/9/1980	7/21/2011	3/4"	Pvc	Replaced 90'
1172 Chapparral Dr	5/6/1969	7/21/2011	BV	BV	
2052 Clearwater Dr	7/1/1967	7/22/2011	1"	PVC	Male adaptor at main

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2543 Valley Vista	7/1/1985	7/24/2011	1"	Dris	Clamp
1950 Imperial Dr	7/1/1967	7/26/2011	Mtr Coup	Mtr Coup	
2313 Merrill Ave	7/1/1982	7/27/2011	1"	Pvc	Replaced tee and valve
2000 Colorado Blvd	7/1/1967	7/27/2011	BV	BV	
2037 Gregg Ln	7/1/1967	7/27/2011	3/4"	Pvc	Replaced svc tee
962 Surf Spray Dr	1/26/1987	7/28/2011	BV	BV	
2041 Swan Cv	7/1/1967	7/28/2011	1"	Pvc	Replaced tee and valves
2059 Swan Cv	7/1/1967	7/28/2011	BV	Abs	Clmap
2350 Adobe Rd	11/1/2003	8/1/2011	1"	Dris	Clamp
1563 Marble Canyon Dr	6/1/1986	8/2/2011	1"	Vanguard	Clamp
2485 Camino Del Rio	7/2/1971	8/2/2011	1"	Dris	Clamp
2515 Valley Vista	7/1/1985	8/2/2011	1"	Vanguard	Clamp
2493 Copper Ct	7/1/1982	8/3/2011	1"	Dris	Replaced section
1539 Monte Vista Dr	6/2/1970	8/3/2011	2'	Pvc	Replaced male adapt.
805 Hancock Rd	12/5/1973	8/4/2011	1"	Dris	Clamp
807 Hancock RD	2/5/1973	8/4/2011	1"	" " "	Clamp
1925 Surf Spray Dr		8/4/2011	BV	BV	
2112 Santa Cruz Ave	7/1/1967	8/6/2011	Saddle	Saddle	Saddle blew off
2634 Country Club Dr	7/1/1972	8/8/2011	3/4"	Dris	Clamp
644 Ramar Rd	3/17/1975	8/8/2011	1"	Pvc	Replaced tee and valves
1081 Church St	10/31/1968	8/8/2011	BV		Valve was not turned on all the way
1093 Citrus St	10/31/1968	8/8/2011	Riser	Mtr Riser	
880 Glen Rd	4/28/1972	8/8/2011	3/4"	Pvc	Leak next to meter
2997 Coyote Run	2/6/2001	8/9/2011	1"	Dris	Clamp
2050 Plaza Dr	7/1/1967	8/9/2011	3/4"	Dris	Replaced section from tee to meter
2535 Corona Redondo	7/1/1985	8/9/2011	1"	Dris	Replaced tee and valve leak before tee
1705 Langford Dr	4/28/1972	8/9/2011	1"	Dris	Clamp
2461 Paseo Cisnie	7/2/1971	8/10/2011	Mtr Gask	Mtr Gask	
2200 Kingston Ln	7/1/1967	8/10/2011	1"	???	Clamp
1260 Lause Rd	5/9/1980	8/10/2011	Nipple	Nipple	
2544 Country Club Dr	5/6/1969	8/10/2011	BV	BV	
2037 Gregg Ln	7/1/1967	8/10/2011	1"	Pvc	Replaced tee and valves
2350 Adobe Rd	11/1/2003	8/11/2011	1"	Pvc	Coupling on Cust side
2327 Silverthorne Dr	5/30/2006	8/12/2011	3/4"	Pvc	Cust side valve
2319 E Riverview Cir	7/1/1972	8/12/2011	BV	BV	
1184 Linda Vista	12/31/1964	8/14/2011	BV	BV	
2350 Adobe Rd	11/1/2003	8/14/2011	1"	Dris	Clamp
2428 Rio Dr	7/1/1970	8/15/2011	1"	Abs	Replaced section
2225 Balboa Dr	7/1/1967	8/16/2011	BV	BV	
1780 El Cazador	7/1/1985	8/16/2011	1"	Dris	Clamp
748 Church Dr	3/17/1975	8/16/2011	3/4"	Pvc	Replaced coupl by meter
1726 Coronado Dr		8/17/2011	1"	Pvc	Replaced tee and valves
2350 Adobe Rd	11/1/2003	8/17/2011	1"	Dris	Clamp
588 Havasu Ln	7/1/1967	8/17/2011	3/4"	Nipple	Brk large tree root
2277 Sunrise Trl	9/24/1998	8/18/2011	1"	Dris	Clamp
2321 Soaring Eagle Dr	5/8/2002	8/18/2011	1"	Dris	Clamp
1655 Arriba Dr	9/3/1971	8/18/2011	BV	BV	
2318 Kaibab Dr	7/1/1960	8/18/2011	BV	BV	
2384 Merrill Ave	7/1/1982	8/18/2011	3/4"	Dris	Clamp
1273 Ramar Rd	1/19/1966	8/18/2011	1"	Grey Abs	Clamp
1188 Chapparral Dr	5/6/1969	8/18/2011	BV	BV	
1124 Papago Dr	7/1/1972	8/18/2011	3/4"	Pvc	Cust side could have been cause my previous work

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2633 Avenida Grande	7/1/1985	8/18/2011	1"	Vanguard	Clamp
748 Church St	3/17/1975	8/18/2011	3/4"	Pvc	Replaced fitting, 90'
1975 W Riverbend Cir	7/1/1967	8/19/2011	BV	BV	
1631 Talc Rd	6/2/1970	8/19/2011	1"	Pvc	Replaced fitting 90'
1694 Talc Rd	9/3/1971	8/19/2011	1"	Pvc	NPL hit our svc line rebuilt to cust side
1631 Talc Rd	6/2/1970	8/19/2011	3/4"	Pvc	Replaced coupling
627 Terrace Dr	3/17/1975	8/19/2011	BV	BV	
1173 Riverfront Dr	5/7/1969	8/19/2011	Mtr Gask	Mtr Gask	
2376 Rio Dr	7/1/1970	8/19/2011	3/4"	Pvc	Coupling
1960 Ramar Rd	9/3/1971	8/20/2011	1"	PVC	Flow lock and valve
1348 Hancock Rd	2/21/1966	8/22/2011	1"	Dris	Clamp
2142 Catalina Dr	7/1/1967	8/22/2011	BV	BV	
1448 Park Ln	7/1/1955	8/22/2011	1"	Pvc	Tighten Flow lock
833 Hancock Rd	2/5/1973	8/22/2011	1"	Dris	Clamp
1373 Lincoln Ln	6/23/1968	8/22/2011	3/4"	Pvc	Replaced tee and valves
2507 Via Arroyo	7/1/1969	8/23/2011	1 1/2"	Pvc	Replaced section
454 Riverfront Dr	7/1/1980	8/23/2011	1"	Dris	Clamp
2274 Merrill Ave	7/1/1982	8/23/2011	3/4"	Dris	Clamp
2592 Highland Rd	2/3/2000	8/23/2011	1"	Dris	Clamp
2350 Adobe Rd	11/1/2003	8/24/2011	1"	Dris	Clamp
419 Sea Spray Dr	7/1/1967	8/25/2011	1"	Pvc	Replaced tee and valves
638 Riverfront Dr	3/17/1975	8/25/2011	BV	BV	
2507 Via Arroyo	7/1/1969	8/26/2011	1"	PVC	replaced 90'
515 Stahlman Dr	4/10/1974	8/26/2011	Mtr Gask	Mtr Gask	
1546 Trane rd	1/19/1966	8/26/2011	BV	BV	
1611 Hwy 95	7/1/1982	8/29/2011	BV	BV	
1112 Gemstone Ave	8/22/1967	8/29/2011	1"	Abs	Clamp. Broke due to roots
2876 Country Club Dr	5/9/1980	8/29/2011	BV	BV	Replaced riser
225 Riverfront Dr	7/1/1980	8/29/2011	BV	BV	Angle valve
1344 Park Ln	7/1/1955	8/29/2011	BV	BV	Angle valve
1161 Hwy 95		8/29/2011	BV	BV	
471 Moser Ave	7/1/1970	8/30/2011	2" BV	BV	
1573 Emerald Dr	1/19/1966	8/30/2011	1"		Replaced section broke due to Roots
824 Gemstone Ave	12/5/1973	8/30/2011	1"	Dris	Replaced section with J-M poly
855 Sea Spray Dr	7/1/1959	9/1/2011	3/4"	Dris	Hose clamp
2053 Whitewater Dr	7/1/1967	9/2/2011	3/4"	Vanguard	Replaced section
2848 Camino Del Rio	5/9/1980	9/5/2011	BV	BV	
2274 Merrill Ave	7/1/1982	9/6/2011	1"	Dris	Clamp
1631 Talc Rd	6/2/1970	9/6/2011	3/4"	PVC	Replaced STL 90'
1109 Copper Dr	7/1/1982	9/7/2011	3/4"	Dris	Clamp
1470 Terrace Rd	6/23/1968	9/7/2011	Nipple	Nipple	Replaced nipple and valve
1425 Lincoln Ln	6/23/1968	9/7/2011	BV	BV	
1424 Winters Cir	6/23/1968	9/7/2011	Nipple	BV	
1841 Bluebonnet Blvd	7/1/1967	9/7/2011	3/4"	Dris	Clamp
1188 Camino Cv	5/9/1980	9/7/2011	Riser	Riser	
2393 Hummingbird Ln	7/1/1960	9/8/2011	1"	Pvc	Replced 90'
2507 Via Arroyo	7/1/1969	9/9/2011	1"	Pvc	Replaced bushing
1625 River Gardens Dr	2/5/1973	9/12/2011	Mtr Coup	Mtr Coup	Tighten coupl
1635 Dean Dr	10/16/2006	9/12/2011	1"	Pvc	Replaced bushing
3040 Hwy 95	2/10/1986	9/13/2011	1"	Pvc	Break on cust side hit by City road department, fixed to help day care
1085 Chapparral Dr	7/2/1971	9/13/2011	3/4"	Dris	Clamp
1635 Quartz Cir	8/15/1966	9/13/2011	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1940 E Robson Cir	7/1/1967	9/14/2011	3/4"	Pvc	Replaced stl 90'
454 Riverfront Dr	7/1/1980	9/14/2011	1"	Dris	Clamp
600 Citrus St	4/10/1974	9/14/2011	1"	Dris	Clamp
1456 Rio Vista Dr	3/2/1971	9/14/2011	1"	Pvc	Replaced section
634 Riverfront Dr	3/17/1975	9/15/2011	BV	BV	
644 Ramar Rd	3/17/1975	9/15/2011	3/4"	Pvc	Replaced bushing
965 Citrus St	4/28/1972	9/15/2011	1"	Pvc	Replaced tee and valves
875 Turney Dr	4/28/1972	9/15/2011	BV	BV	
2413 Castle Rock Cir	7/1/1967	9/17/2011	1"	Dris	Clamp
1656 Trane Rd	7/1/1988	9/18/2011	Riser	Riser	
2890 Camino Del Rio	5/9/1980	9/18/2011	1"	Pvc	Replaced tee and valves
1671 Lynn Dr	3/17/1975	9/19/2011	Riser	Riser	
1103 Zircon Ave	8/22/1967	9/19/2011	Mtr Coup	Mtr Coup	Replaced mtr coupling
2051 Swan Cir	7/1/1967	9/19/2011	Nipple	Nipple	
1080 Camino Del Rio	7/1/1987	9/21/2011	BV	BV	
265 Meander Dr	7/1/1967	9/21/2011	1"	Pvc	Replaced tee and valves
1047 Holly St	10/31/1968	9/21/2011	Mtr Coup	Mtr Coup	Replaced coupling
2191 Kingston Ln	7/1/1967	9/21/2011	3/4"	Dris	Clamp
1228 Lause Rd	5/9/1980	9/22/2011	Nipple	Nipple	
419 Sea Spray Dr	7/1/1967	9/23/2011	1"	Pvc	Replaced tee and valves
1898 Avalon Dr	7/1/1967	9/23/2011	3/4"	Nipple	
1641 Talc Way	9/3/1971	9/23/2011	BV	BV	
1849 Del Norte Dr	7/1/1967	9/23/2011	1"	Pvc	Clamp
931 La Jolla Dr	7/1/1967	9/23/2011	BV	BV	
847 Baseline RD	2/5/1973	9/25/2011	3/4"	Pvc	Brk was on cust side after repairs were made
219 Palm Ave	7/1/1970	9/26/2011	1"	Dris	Clamp
212 Lee Ave	7/1/1970	9/26/2011	1"	Dris	Clamp
1706 Ramar rd	9/3/1971	9/26/2011	1"	Pvc	Clamp
1974 Highway 95	4/14/1968	9/26/2011	Riser	Riser	
667 Lilac Dr	7/1/1959	9/26/2011	3/4"	Dris	Clamp
2960 Silver Creek Rd		9/27/2011	BV	BV	
901 Palo Verde	4/28/1972	9/27/2011	1"	Pvc	Replaced tee and valves
794 Riverfront Dr	2/5/1973	9/28/2011	Mtr Coup	Mtr Coup	
643 Roadrunner Dr	3/17/1975	9/29/2011	1"		Tighten Fitting
2121 Coronado Dr	7/1/1967	9/29/2011	Mtr Coup	Mtr Coup	Tighten Fitting
1942 Artesia Dr	7/1/1967	9/29/2011	Nipple	Nipple	
2200 Kingston Ln	7/1/1967	10/1/2011	3/4"	Dris	Clamp
2159 Oswood Ln	7/1/1967	10/3/2011	Nipple	Nipple	
597 Mead Ln	7/1/1967	10/4/2011	Riser	Riser	
1236 Baseline Rd	1/16/1968	10/6/2011	Saddle	Saddle	Replaced saddle and 3" of service
613 Church St	4/10/1974	10/7/2011	3/4"	Pvc	MTR reader dropped lid on meter and brk svc line
1110 Jocabima Dr	4/28/1972	10/7/2011	1"	Vanguard	Clamp
2020 Coronado Cir		10/10/2011	1"	Pvc	Replaced tee and valves
2250 Hwy 95	6/1/1986	10/10/2011	2"	Pvc	Replaced section
664 Honeysuckle Rd	7/1/1959	10/10/2011	1"	Dris	Clamp
1241 Verano Dr	10/28/1975	10/10/2011	BV	BV	
1313 Riverfront Dr	6/23/1968	10/10/2011	Nipple	Nipple	
3003 Hwy 95	2/10/1986	10/10/2011	Mtr Gask	Mtr Gask	
1436 Mirada Dr	5/7/1969	10/10/2011	Mtr Gask	Mtr Gask	
1840 Sea Breeze Ln	7/1/1959	10/11/2011	BV	BV	
1605 Dean Dr	10/16/2006	10/13/2011	BV	BV	
886 Church St	4/28/1972	10/13/2011	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1700 Bluebonnet Blvd	3/17/1975	10/13/2011	Mtr Coup	Mtr Coup	
1099 Hancock RD	8/22/1967	10/13/2011	Mtr Coup	Mtr Coup	
1097 Churct St	10/31/1968	10/14/2011	1"	Pvc	Replaced tee and valves
1935 Coronado Cir	7/1/1959	10/14/2011	1 1/4"	Pvc	Replaced tee and tied back to meters
885 Roadrunner Dr	4/28/1972	10/14/2011	BV	BV	
1943 Riverbend Cir E	7/1/1967	10/14/2011	BV	BV	
1868 Arena Dr	10/28/1975	10/14/2011	3/4"	Pvc	Replaced tee and valves
1440 Riverfront Dr	6/23/1968	10/14/2011	BV	BV	
840 Holly St	2/5/1973	10/17/2011	1"	Pvc	Replaced tee and valves
1908 Montclair Dr	7/1/1967	10/17/2011	BV	BV	Flair valve
1373 Trane Rd	6/23/1968	10/17/2011	BV	BV	
645 Citrus St	3/17/1975	10/17/2011	BV	BV	
419 Sea Spray Dr	7/1/1967	10/18/2011	1"	Pvc	Replaced tee and valves
2506 Valley Vista	7/1/1985	10/18/2011	1"	Copper	Replaced section
1602 Clover Ln	10/31/1968	10/19/2011	Riser	Riser	
3016 Carefree Dr	7/1/2008	10/19/2011	1"	Dris	Clamp
2031 Swan Cv	7/1/1967	10/19/2011	BV	BV	
1199 Camino Cv	5/9/1980	10/24/2011	1"	Pvc	Replaced 90'
2055 Bermuda Dr	7/1/1967	10/25/2011	Riser	Riser	
2452 Rio Dr	7/1/1970	10/25/2011	BV	BV	
2592 Majestic Way	1/22/2001	10/25/2011	1"	Dris	Clamp
2898 Country Club Dr	5/9/1980	10/25/2011	1"	Pvc	
2560 Fox Run Ln	5/9/1996	10/26/2011	1"	Dris	Clamp
241 Long Ave	7/1/1970	10/27/2011	1"	Vanguard	Clamp
1937 Morning Glory TR	7/1/1959	10/27/2011	Nipple	Nipple	
2561 Via Arroyo	12/31/1967	10/27/2011	3/4"	Pvc	Replaced bushing
736 Swan Dr	7/1/1967	10/27/2011	1"	BV	
1825 East Shores Villa	7/1/1979	10/28/2011	1"	Dris	Clamp
695 Marina Blvd	7/1/1959	10/29/2011	1 1/4"	Pvc	Hose Clamp
2606 Country Club Dr	7/1/1972	10/31/2011	Mtr Gask	Mtr Gask	
2515 Valley Vista	7/1/1985	11/1/2011	1"	Vanguard	Clamp
793 Baseline Rd	2/5/1973	11/2/2011	2"	Pvc	Pvc
695 Marina Blvd	7/1/1959	11/2/2011	1 1/4"		
1132 Chapparel Dr	5/6/1969	11/2/2011	3/4"	BV	Customer broke our valve
1968 Talc Cir	9/3/1971	11/3/2011	1"	Pvc	Replaced section
2610 Via Arroyo	7/1/1972	11/4/2011	3/4"	Pvc	Male adaptor at SVC valve
558 Stahlman Dr	4/10/1974	11/4/2011	1"	Brass	Replaced brass branch tee.
1686 Lynn Dr	3/17/1975	11/7/2011	BV	BV	Customer broke ball valve
590 Riverfront Dr	3/17/1975	11/7/2011	Saddle	Saddle	Replaced bad steel saddle
2350 Adobe Rd	11/1/2003	11/8/2011	1"	Vanguard	Clamp
2290 Merrill Ave	7/1/1982	11/8/2011	1"	Dris	Clamp
2625 Paloma Senda	7/1/1985	11/8/2011	BV	BV	
1135 Avienda Del Sol	12/31/1967	11/8/2011	BV	BV	
1099 Copper Ave	7/1/1982	11/8/2011	3/4"	Pvc	Replaced bushing
2271 Riverview Ct	7/1/1972	11/8/2011	BV	BV	
1705 Trane RD	2/21/1966	11/8/2011	3/4"	Dris	Clamp
423 Patillo Dr	7/1/1980	11/9/2011	BV	BV	
1807 Arrowhead Dr	7/1/1967	11/9/2011	BV	BV	
1835 El Monte Dr	7/1/1967	11/9/2011	BV	BV	
1444 Colina Dr	10/28/1975	11/10/2011	1"	Pvc	Replaced section
2060 Catalina Dr	7/1/1967	11/12/2011	Mtr Gask	Mtr Gask	
1737 Dorado Dr	10/28/1975	11/13/2011	1"	Pvc	Replaced section
643 Terrace Dr	3/17/1975	11/14/2011	BV	BV	
1918 Surf and Sand Dr	7/1/1959	11/15/2011	BV	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1467 Arena Cir	3/2/1971	11/16/2011	Mtr Coup	Mtr Coup	Tighten meter coupling
851 Sea Spray Dr	7/1/1959	11/16/2011	Mtr Coup	Mtr Coup	Tighten meter coupling
1793 Coronado Cv	7/1/1959	11/16/2011	Mtr Coup	Mtr Coup	Tighten meter coupling
2449 Paseo Cisnie	7/2/1971	11/17/2011	3/4"	Brass	Pack at corp and Mtr valve
2136 Del Rey Dr	7/1/1967	11/17/2011	3/4"	Dris	Tree roots around mtr valve
2110 Balboa Dr	7/1/1967	11/18/2011	BV	BV	
1613 Avenida Grande		11/18/2011	BV	BV	
1573 Emerald Dr	1/19/1966	11/23/2011	1"	Pvc	Clamp, Tree roots
700 Dafadil Dr	7/1/1959	11/28/2011	3/4"	Pvc	Replaced tee and valves
1373 Baseline Rd	6/23/1968	11/28/2011	1"	Dris	Clamp
777 Riverview Dr	7/1/1967	11/29/2011	3/4"	Pvc	Replaced tee and valves
770 Hancock Rd	7/1/1959	11/29/2011	1"	Pvc	Replaced nipple and valve
294 Moser Ave	7/1/1970	12/2/2011	Mtr Coup	Mtr Coup	Replaced mtr coupling
1461 Orilla Dr	3/2/1971	12/2/2011	Nipple	Nipple	
1111 Zircon Ave	8/22/1967	12/3/2011	3/4"	Brass	Replaced bushing and valve
2597 Country Club Dr	7/1/1972	12/7/2011	Nipple	Nipple	
1845 Balsa Rd	9/3/1971	12/7/2011	1"	Pvc	Replaced PVC male adaptor
1332 Riverfront Dr	6/23/1968	12/8/2011	1"	Brass	Hole in Coupling
1594 Camino Ct	5/9/1980	12/9/2011	BV	BV	
1796 Verano Dr	10/28/1975	12/12/2011	BV	BV	
1965 Monterey Dr	7/1/1967	12/14/2011	BV	BV	Open valve all the way, leak stopped
1846 Monterey Dr	7/1/1967	12/14/2011	BV	BV	
383 Santa Maria Rd	7/1/1967	12/14/2011	3/4"	Pvc	Replaced bushing and valve
2212 Ventura Dr	7/1/1967	12/14/2011	BV	BV	
824 Sea Spray Dr	7/1/1959	12/14/2011	3/4"	Mtr Coup	
1669 Sierra Vista	6/2/1970	12/14/2011	Riser	BV	
2271 Riverview CT	7/1/1972	12/14/2011	3/4"	Nipple	
2960 Silver Creek Rd		12/15/2011	3/4"	BV	
915 Ramar Rd	4/28/1972	12/15/2011	BV	BV	
356 River glen Dr	7/1/1970	12/15/2011	1"	Dris	Replaced section
1836 Arrowhead Dr	7/1/1967	12/17/2011	1"	Pvc	Replaced tee and valves
383 Santa Maria Rd	7/1/1967	12/20/2011	3/4"	Pvc	Replaced bushing
1137 Avienda Del Sol	12/31/1967	12/23/2011	3/4"	PVC	Replaced male adaptor
1942 Arena Dr	10/28/1975	12/23/2011	1"	Pvc	Replaced section with copper
2270 Acoma Pl	7/1/1972	12/24/2011	3/4"	Pvc	Customer side replaced 1 foot of pipe
2229 Coronado Dr	7/1/1967	12/27/2011	3/4"	Nipple	
1126 Hwy 95	7/1/1970	12/29/2011	1"	Copper	Leaking at flair tee coming from main
966 Citrus St	4/28/1972	12/30/2011	BV	BV	
1444 Colina Dr	10/28/1975	12/30/2011	3/4"	Pvc	Customer side replaced 1 foot of pipe
769 Riverview Dr	7/1/1967	12/30/2011	3/4"	Pvc	Replaced tee
963 Skippers Cv	7/1/1967	1/1/2012	1"	Abs	Replaced section
1370 Tuthill Ln	6/23/1968	1/4/2012	BV	BV	
810 Swan Dr	7/1/1967	1/4/2012	Nipple	Nipple	
389 Santa Maria Rd	7/1/1967	1/4/2012	Nipple	Nipple	
1130 Zircon Ave	1/16/1968	1/5/2012	Nipple	Nipple	Replaced nipple and Riser
1340 Gemstone Ave	6/7/1966	1/6/2012	3/4"	Pvc	Mtr coupling
1497 Palma RD	4/14/1968	1/6/2012	1"	Dris	Clamp
1896 Oliver Dr	7/1/1967	1/9/2012	BV	BV	
1631 Talc Rd	6/2/1970	1/9/2012	1"	Pvc	Replaced tee and valve all in now brass
903 Riverfront Dr	4/28/1972	1/9/2012	Mtr Coupl	Mtr Coupl	
629 Holly St	4/10/1974	1/10/2012	BV	BV	
345 Rio Grande Ct	7/1/1967	1/11/2012	BV	BV	
257 Marina Blvd	7/1/1967	1/11/2012	BV	BV	

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848 Citrus St	2/5/1973	1/11/2012	BV	BV	
871 Holly St	2/5/1973	1/11/2012	Nipple	Nipple	
1591 Country Club Way	5/9/1980	1/13/2012	Saddle	Saddle	Replaced saddle
1138 Avienda De La Golodrina	12/31/1967	1/13/2012	BV	BV	
1479 Sunset Ln	7/1/1972	1/16/2012	3/4"	Pvc	Female coupling under angle valve
2266 Riverview Ct	7/1/1972	1/19/2012	BV	BV	
664 Cherry Blossom Ln	7/1/1959	1/19/2012	BV	BV	
2425 Wilder Dr	9/1/2004	1/19/2012	1"	Dris	Clamp
2493 Paseo Cisne	7/2/1971	1/22/2012	Riser	Riser	Installed riser for cust to shut off water
629 Holly St	4/10/1974	1/25/2012	3/4"	Pvc	Leak just after meter,
718 Daisy Dr	7/1/1959	1/26/2012	Nipple	Nipple	
1366 Rubel Ln	6/23/1968	2/2/2012	BV	BV	
1639 Alta Vista Dr	6/2/1970	2/2/2012	BV	BV	
1692 Toro Dr	9/3/1971	2/3/2012	1"	Pvc	replaced 90' & Bushing
2497 Juneberry cir	5/19/2000	2/5/2012	3/4"	Pvc	Cust side broke after svc replacement
454 Riverfront, 102,103,104	7/1/1980	2/5/2012	3/4"	Pvc	Cust side broke after svc replacement
1097 Church St	10/31/1968	2/7/2012	Mtr	Mtr	Mtr blew hole in bottom
2368 Hummingbidr Ln	7/1/1960	2/9/2012	1"	Pvc	Clamp
612 Citrus St	4/10/1974	2/11/2012	1"	Dris	Clamp
1785 Rollando Dr	7/1/1959	2/13/2012	Saddle	Saddle	Replaced saddle
1963 El Monte Dr	7/1/1967	2/13/2012	BV	BV	
1376 Palma Plz	1/19/1966	2/14/2012	1"	Abs	Replaced section
690 Shady Nook Cir	7/1/1959	2/17/2012	1"	Abs	Clamp
2255 Sunrise Trl	9/24/1998	2/17/2012	BV	BV	
2610 Paloma Senda	7/1/1985	2/17/2012	1"	Dris	Clamp
931 Swan DR	7/1/1967	2/18/2012	3/4"	Pvc	Replace 90' & Mtr valve
1630 Palma Cir	6/7/1966	2/22/2012	1"	Pvc	Glue failed
1575 Alta Vista Dr	4/28/1972	2/22/2012	BV	BV	
1366 Trane Rd	6/23/1968	2/22/2012	Mtr Gask	Mtr Gask	
306 Nevada Dr	7/1/1967	2/22/2012	Mtr Gask	Mtr Gask	
1676 Arena Dr	3/2/1971	2/22/2012	1"	Nipple	
2219 Del Rey Dr	7/1/1967	2/23/2012	Riser	Riser	
2334 W Riverview Cir	7/1/1972	2/23/2012	BV	BV	
2896 Country Club Plz	5/9/1980	2/24/2012	3/4"	Nipple	
1072 Navajo Dr	7/1/1972	2/24/2012	BV	BV	
1631 Talc Rd	6/2/1970	2/29/2012	3/4"	Nipple	
201 Riverfront Dr	7/1/1980	3/1/2012	1"		Replaced section, line was bored through
931 Swan Dr	7/1/1967	3/1/2012	3/4"	Nipple	
1440 Riverfront Dr	6/23/1968	3/2/2012	Nipple	Nipple	
478 Stieger Dr	7/1/1967	3/2/2012	1"	Pvc	Replaced tee
946 SeaFair Dr	7/1/1967	3/3/2012	1 1/4"	Pvc	Replaced section, corp
1700 El Cazador	7/1/1985	3/8/2012	BV	BV	
1928 Granada Dr	7/1/1967	3/8/2012	BV	BV	
1350 Newberry Dr	7/1/1960	3/9/2012	1"	Pvc	Replaced section
2933 Camino Del Rio	5/9/1980	3/11/2012	1"	Pvc	Replaced male adapt
1641 Turquoise Rd	6/2/1970	3/12/2012	2"	Pvc	Replaced 90'
2538 Via Arroyo	5/6/1969	3/13/2012	Riser	Riser	
900 Harbor Dr	11/1/1990	3/13/2012	BV	BV	
887 Harbor Dr	11/1/1990	3/13/2012	BV	BV	
1939 Riviera Blvd	7/1/1959	3/13/2012	3/4"	Nipple	
1035 Papago Dr	7/1/1972	3/13/2012	BV	BV	

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1173 Chippewa Dr	7/1/1972	3/13/2012	1"	Dris	Clamp
1904 Surf and Sand Dr	7/1/1959	3/14/2012	Nipple	Nipple	Replaced 90 and ball valve
2390 Acoma Dr	7/1/1972	3/23/2012	2"	Pvc	Replaced glue 90'
2356 Taos Dr	7/1/1972	3/28/2012	1"	Dris	Clamp
1965 Capistrano Ln	7/1/1967	3/29/2012	BV	BV	
1575 Monte Vista Dr	6/2/1970	4/2/2012	2"	Vlave	Replaced 2" valve and flow lock
591 Coral Reef Dr	7/1/1967	4/3/2012	BV	BV	
184 Lee Ave	7/1/1970	4/3/2012	BV	BV	
1248 Ramar Rd	1/19/1966	4/3/2012	BV	BV	
1840 Montery Dr	7/1/1967	4/9/2012	Nipple	Pvc	
611 Havasu Ln	7/1/1967	4/9/2012	1"	Abs	Replaced section
1645 Dorado Dr	3/2/1971	4/11/2012	BV	BV	
2298 Red Rock Rd	7/1/1972	4/16/2012	Riser	Riser	
1871 Sea Breeze Ln	7/1/1959	4/16/2012	BV	BV	
1941 Coral Isle Dr	7/1/1959	4/16/2012	BV	BV	
927 Sandy Beach	11/1/1990	4/16/2012	BV	BV	
2286 Kaibab Dr	7/1/1960	4/16/2012	BV	BV	
2712 Avienda Colibri	7/1/1985	4/17/2012	Nipple	Nipple	
2334 Riverview Cir W	7/1/1972	4/17/2012	BV	BV	
643 Roadrunner Dr	3/17/1975	4/17/2012	Nipple	Nipple	
1937 Arcadia Court	10/28/1975	4/17/2012	BV	BV	
2350 Adobe Rd	11/1/2003	4/17/2012	1"	Vanguard	Clamp
971 Cherry Blossom Ln		4/17/2012	BV	BV	
2406 Juneberry cir	8/31/2000	4/18/2012	Mtr Coupl	Mtr Coupl	
951 Sea Spray Dr	1/15/1979	4/18/2012	BV	BV	
2350 Adobe Rd	11/1/2003	4/18/2012	1"	Dris	Clamp
1821 Coral Isle Dr	8/10/1982	4/18/2012	Mtr Gask	Mtr Gask	
333 Anna Cir	7/1/1980	4/19/2012	1"	Dris	Clamp
1820 Clearwater Dr	7/1/1967	4/19/2012	Nipple	Nipple	
2592 Via Arroyo	5/6/1969	4/19/2012	BV	BV	
890 Hancock Rd	7/1/1959	4/19/2012	3/4"	Nipple	
411 Riverfront Dr	7/1/1980	4/23/2012	1"	Dris	Clamp
2809 Colibri Court	7/1/1985	4/24/2012	Mtr Gask	Mtr Gask	
2022 Merrill Ln	7/1/1982	4/24/2012	Riser	Riser	
777 Riverview Dr	7/1/1967	4/24/2012	3/4"	Pvc	Replaced coupling at tee
1440 Riverfront Dr	6/23/1968	4/24/2012	1"	Pvc	Tighten nipple
1575 Monte Vista Dr	6/2/1970	4/25/2012	2"	Nipple	Cust side nipple, Leaking after we made repairs
232 Tanglewood Ln	7/1/1967	4/25/2012	Nipple	Nipple	
2561 Via Arroyo	12/31/1967	4/26/2012	1"	Pvc	Replaced male adaptor
334 Sea Creek Dr	7/1/1967	4/30/2012	BV	Nipple	
2350 Adobe Rd	11/1/2003	5/1/2012	1"	Dris	Clamp
1651 Emerald Dr	6/7/1966	5/7/2012	Nipple	Nipple	
1666 Trane Rd	7/1/1988	5/7/2012	BV	BV	
1650 Trane Rd	7/1/1988	5/7/2012	3/4"	Pvc	Tighten Flow lock
1800 Clubhouse Dr	7/1/1979	5/8/2012	2"	Nipple	Replaced with Brass
2042 Catalina Dr	7/1/1967	5/8/2012	3/4"	Pvc	Broke by Tri-R installed flow lock and valve
1069 Mobile Ln	7/1/1955	5/8/2012	Mtr Coupl	Mtr Coupl	Tighten
901 Palo Verde	4/28/1972	5/8/2012	Nipple	Nipple	
1061 Paradise Ln	7/1/1955	5/8/2012	BV	BV	
1840 Diamond Dr	7/1/1967	5/10/2012	BV	BV	
711 Daisy Dr	7/1/1959	5/11/2012	3/4"	Pvc	Replaced cracked 90'
1467 Palma Rd	6/23/1968	5/14/2012	2"	BV	

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1941 Riverside Dr	7/1/1967	5/15/2012	BV	BV	
1159 Camino Cv	5/9/1980	5/15/2012	1"	Pvc	Replaced cracked 90'
1803 Forest Way	7/1/1967	5/16/2012	BV	BV	
1595 Marble Canyon Dr	6/1/1986	5/17/2012	1"	Vanguard	Clamp
2967 Camino Del Rio	5/9/1980	5/18/2012	1"	Pvc	Lowered due to customers landscaping
901 Palo Verde	4/28/1972	5/18/2012	1"	Pvc	Replaced tee and valves
1917 Castle Berry Ln	7/1/1967	5/18/2012	1"	Dris	Clamp
2967 Camino Del Rio	5/9/1980	5/18/2012	3/4"	Pvc	Lowered meter for customer
2483 Paseo Cisne	7/2/1971	5/21/2012	1"	Copper	Clamped pin hole in copper
703 River Gardens Dr	7/1/1959	5/22/2012	1 1/4"	Pvc	Replaced leaking gate valve
2812 Silver Creek Rd	7/1/1985	5/23/2012	2"	Pvc	Replaced cracked coupler
2022 #3 Merrill Ave	7/1/1982	5/24/2012	2"	Dris	Clamp
2479 Ripple Dr	7/1/1970	5/25/2012	1"	Abs	Flow lock and rebuilt company side
905 Palo Verde	4/28/1972	5/28/2012	1"	Pvc	Flow lock and rebuilt company side
2483 Paseo Cisne	7/2/1971	5/29/2012	3/4"	Pvc	90 on cust side broke due to line replacement
2845 Camino Del Rio	11/10/2000	5/29/2012	1"	Dris	Angle stop and mueller blew off service line
901 Palo Verde	4/28/1972	5/29/2012	1"	Pvc	Tee cracked rebuilt company side
446 Steiger Dr	7/1/1967	5/29/2012	3/4"	Brass	Replaced meter riser
1934 Riverside Dr	7/1/1967	5/30/2012	3/4"	Dris	Clamp
1618 GoldRush Rd	7/1/1994	5/31/2012	2"	Dris	Clamp
1962 Capistrano Ln	7/1/1967	5/31/2012	3/4"	BV	
936 Citrus St	4/28/1972	5/31/2012	3/4"	Pvc	Replaced cracked nipple
574 Ramar Rd Irr	4/10/1974	5/31/2012	1"	Dris	clamp
2358 Castle Rock Cir	7/1/1967	6/2/2012	3/4"	Copper	replaced leaking riser
1012 Merrill Ct	7/1/1982	6/4/2012	3/4"	BV	Tighten ball valve on nipple
959 Captains Cv		6/6/2012	1"	Pvc	Replace a 2' section of black thin wall abs
1680 Mesa Vista Dr	6/2/1970	6/7/2012	3/4"	Pvc	Replaced nipple and BV
2461 Ripple Dr	7/1/1970	6/7/2012	1"	Pvc	Flow lock and rebuilt company side
1715 Trane Rd	2/21/1966	6/7/2012	3/4"	Dris	Adjusted clamp on poly line
2406 Castle Rock Cir	7/1/1967	6/7/2012	3/4"	BV	
2613 Camino Del Rio	12/31/1967	6/8/2012	3/4"	Brass	Replaced meter coupling
2284 Merrill Ave	7/1/1982	6/12/2012	3/4"	Bv	
2809 Colibri Court	7/1/1985	6/12/2012	3/4"	BV	
936 Citrus St	4/28/1972	6/13/2012	3/4"	Pvc	Replaced cracked nipple
1757 Sea Creek	7/1/1967	6/13/2012	3/4"	Pvc	Replaced cracked nipple
1084 Riverview Dr	7/1/1972	6/13/2012	1"&3/4"	Dris	Clamped 1" poly and where it tees clamped 3/4" poly
1680 Mesa Vista Dr	6/2/1970	6/14/2012	3/4"	Pvc	Replaced cracked coupler and ball valve
390 Riverfront Dr	7/1/1980	6/15/2012	1"	Copper	Replaced brass tee
2915 Camino Del Rio	5/9/1980	6/15/2012	3/4"	Brass	Replaced leaking meter
1963 W Riverbend Cir	7/1/1967	6/16/2012	1"	Dris	Clamped 1" poly
390 Riverfront Dr	7/1/1980	6/16/2012	3/4"	Pvc	Replaced pvc Coupling
1957 Balsa Dr	9/3/1971	6/17/2012	3/4"	Pvc	Replaced leaking nipples
547 Riverfront Dr	4/10/1974	6/18/2012	3/4"	BV	
1922 El Monte Dr	7/1/1967	6/19/2012	3/4"	BV	
1950 Coral Isle Dr	7/1/1959	6/19/2012	3/4"	Copper	Replaced 12" Riser
1995 Colorado Blvd	7/1/1967	6/19/2012	3/4"	Dris	Clamp
1786 Colorado Blvd	7/1/1967	6/19/2012	3/4"	Pvc	Replaced cracked nipple and ball valve

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2671 Hwy 95	7/1/1960	6/20/2012	3/4"	BV	
576 Ramar Rd	4/10/1974	6/20/2012	3/4"	BV	
825 Gemstone Ave	12/5/1973	6/21/2012	1"	Dris	Clamp
1995 Colorado Blvd	7/1/1967	6/22/2012	3/4"	Dris	Replaced 10' of poly with copper into existing copper
1124 Papago Dr	7/1/1972	6/23/2012	1"	Dris	Clamp
2076 Bermuda Dr	7/1/1967	6/25/2012	3/4"	Pvc	Flow lock and rebuilt company side
2286 Desert Forest Ln	5/30/2006	6/25/2012	1"	Dris	Clamp
2344 Soaring Eagle Dr	5/8/2002	6/25/2012	1"	Dris	Clamp
1792 Cyprus Ln	7/1/1967	6/26/2012	3/4"	BV	
1770 Cyprus Ln	7/1/1967	6/26/2012	3/4"	Pvc	replaced crack nipple and ball valve
2416 Merrill Ave	7/1/1982	6/27/2012	3/4"	Dris	replaced 2' of poly line with copper
1918 Surf and Sand Dr	7/1/1959	6/30/2012	3/4"	Pvc	Replaced cracked nipple and ball valve
2600 Paloma Senda	7/1/1985	6/30/2012	1"	Dris	Replaced a 2' of poly with copper
1345 Cherokee Ln	7/1/1960	7/2/2012	3/4"	BV	
1827 Cyprus Ln	7/1/1967	7/2/2012	3/4"	Pvc	Replaced nipple and reducer at tee
2960 Silver Creek Rd		7/3/2012	3/4"	BV	
1680 Mesa Vista Dr	6/2/1970	7/5/2012	3/4"	Pvc	Replaced cracked coupling and ball valve
1260 Riverfront Dr	6/23/1968	7/5/2012	3/4"	BV	
1012 Merrill Ct	7/1/1982	7/5/2012	3/4"	Brass	Tightened ball valve
2256 Kaibab Dr	7/1/1972	7/7/2012	1"	Dris	clamp
1679 Rio Vista Dr	9/3/1971	7/9/2012	3/4"	Copper	Repaired copper riser with clamp
1370 Tuthill Ln	6/23/1968	7/9/2012	3/4"	Pvc	replaced crack nipple and nipple
1200 Ramar Rd	10/31/1968	7/10/2012	3/4"	BV	
1641 Balsa Rd	9/3/1971	7/10/2012	3/4"	BV	
1424 Monte Vista Dr	3/2/1971	7/10/2012	3/4"	Pvc	Replace crack reducer bushing
1424 Mesa Vista Dr		7/10/2012	3/4"	Pvc	replaced cracked bushing and valve
2119 Santa Cruz Ave	7/1/1967	7/11/2012	3/4"	Dris	replace 2' of poly with 3/4" coppeer
315 River Glen and 4th	7/1/1970	7/11/2012	2"	Pvc	Clamped main at 2" saddle and retaped with corp stop
2350 Adobe Rd	11/1/2003	7/12/2012	1"	Dris	Clamp
1904 Sea Breeze Ln	7/1/1959	7/12/2012	1"	Pvc	Replaced crack nipple and reducer
2140 Coronado Dr	7/1/1967	7/12/2012	3/4"	BV	
2768 Paloma Senda	7/1/1985	7/13/2012	3/4"	BV	
2717 Paloma Senda	7/1/1985	7/14/2012	3/4"	BV	
2147 Oswood Ln	7/1/1967	7/14/2012	3/4"	Pvc	Replaced bushing
1200 Ramar Rd	10/31/1968	7/14/2012	3/4"	Pvc	Replaced cracked coupler
613 Ramar Rd	4/10/1974	7/14/2012	3/4"	BV	
1842 Coral Isle DR	8/10/1982	7/16/2012	3/4"	BV	
2896 Country Club Dr	5/9/1980	7/16/2012	3/4"	BV	
1842 Coronado Dr	7/1/1959	7/16/2012	3/4"	BV	
389 Santa Maria Rd	7/1/1967	7/16/2012	1"	Pvc	Tightened Flow loc
1900 Sea Breeze Ln	7/1/1959	7/17/2012	3/4"	Pvc	Replaced crack pvc street ell
344 Santa Cruz Ave	7/1/1967	7/18/2012	1"	BV	
2904 Camino Del Rio	5/9/1980	7/18/2012	1"	BV	
2062 Bermuda Dr	7/1/1967	7/20/2012	3/4"	BV	
2567 Camino Del Rio	7/1/1969	7/20/2012	1 1/2"	Pvc	Flow loc and valve and rebuilt service
2099 Coronado Dr	7/1/1967	7/20/2012	3/4"	BV	not on all the way
1161 Riverfront Dr	5/7/1969	7/20/2012	1"	BV	
967 Marina Blvd	7/1/1967	7/24/2012	3/4"	BV	
2555 Corona Redonda	7/1/1985	7/24/2012	1"	Dris	Clamp
1884 Oliver Dr	7/1/1967	7/24/2012	1"	Dris	Clamp

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2365 Crimson Rd	4/15/2003	7/25/2012	1"	Dris	Clamp
493 Riverfront Dr	7/1/1980	7/26/2012	3/4"	BV	
971 Palo Verde	4/28/1972	7/26/2012	3/4"	Pvc	Replaced tee at meter box
599 Holly St	4/10/1974	7/29/2012	3/4"	Pvc	replaced leaking coupler
1710 Highland Rd	2/21/1966	7/31/2012	3/4"	Copper	Flare at ball valve leaking
454 Riverfront Dr	7/1/1980	8/3/2012	1"	Dris	Clamp
1829 Montery Dr	7/1/1967	8/3/2012	11/4"	Pvc	Replaced broken tee
1385 Bryan Dr	6/23/1968	8/3/2012	3/4"	BV	
1024 Navajo Dr	7/1/1972	8/3/2012	3/4"	Brass	Replaced meter coupling
2538 Camino Del Rio	7/1/1969	8/5/2012	3/4"	Brass	Replaced meter gasket on customer side of meter
1829 Monterey Dr	7/1/1967	8/6/2012	1"	Pvc	Replaced cracked tee and 90
2150 Catalina Dr	7/1/1967	8/7/2012	3/4"	BV	
Highland behind school		8/7/2012	1"	Dris	Clamp
2022 Merrill Ln	7/1/1982	8/8/2012	3/4"	Mtr Gask	
2420 Merrill Ave	7/1/1982	8/8/2012	3/4"	Dris	Replaced 2' of poly after tee
1678 Rio Vista Dr	9/3/1971	8/8/2012	3/4"	BV	
363 Harbor Pl	7/1/1967	8/8/2012	3/4"	Tough tube	Clamp
1106 Sahuaro Dr	7/1/1955	8/8/2012	3/4"	BV	
2218 Lakeside Dr	7/1/1967	8/8/2012	1"	Vanguard	Clamp
1471 Mirada Dr	5/7/1969	8/8/2012	3/4"	Pvc	Replaced leaking nipple and ball valve
1614 Trane Rd	7/1/1988	8/9/2012	1"	Pvc	Flow loc valve
402 Emery Dr	10/6/1993	8/11/2012	3/4"	BV	
411 Riverfront Dr	7/1/1980	8/11/2012	3/4"	BV	
1853 Oliver Dr	7/1/1967	8/11/2012	3/4"	Nipple	
518 Terrace Dr	4/10/1974	8/11/2012	3/4"	BV	
2900 Camino Del Rio	5/9/1980	8/11/2012	3/4"	Pvc	Replaced leaking tee
1755 Balsa Rd	9/3/1971	8/11/2012	3/4"	BV	
1650 Arriba Dr	9/3/1971	8/11/2012	3/4"	BV	
566 Malibu N	7/1/1967	8/11/2012	3/4"	Mtr Coupl	Tightened meter coup
361 Harbor Pl	7/1/1967	8/12/2012	3/4"	Tough tube	Clamp
356 Harbor Pl	7/1/1967	8/12/2012	3/4"	Tough tube	Clamp
1946 W Riverbend Cir	7/1/1967	8/13/2012	3/4"	Pvc	Replace cracked bushing at saddle
2348 Merrill Ave	7/1/1982	8/13/2012	1"	Dris	Clamp
1197 Puerta Vista	12/31/1964	8/13/2012	3/4"	Pvc	Replaced crack male adapter
843 Ramar Irr	2/5/1973	8/13/2012	3/4"	BV	
736 Citrus St	3/17/1975	8/14/2012	3/4"	Mtr Gask	
1282 Zircon Ave	1/19/1966	8/14/2012	1"	Pvc	Flow loc valve
2358 Taos Dr	7/1/1972	8/15/2012	1"	clamp	
1292 Zircon Ave	1/19/1966	8/15/2012	1"	Pvc	Flow loc valve
568 Riverfront Dr	4/10/1974	8/15/2012	3/4"	Mtr Gask	
565 Ramar Rd	4/10/1974	8/16/2012	3/4"	BV	
1829 Montery Dr	7/1/1967	8/16/2012	1"	Pvc	Replaced cracked tee
568 Riverfront Dr	4/10/1974	8/16/2012	3/4"	BV	
705 Ramar Rd	3/17/1975	8/16/2012	3/4"	BV	
597 Ramar Rd	4/10/1974	8/16/2012	3/4"	BV	
1597 Paige Dr	2/26/1992	8/17/2012	2"	Brass	2" blow off came off
2267 Riverview Ct	7/1/1972	8/18/2012	3/4"	BV	
1134 Cibeque Dr	7/1/1972	8/18/2012	3/4"	BV	
2299 Kaibab Dr	7/1/1960	8/18/2012	3/4"	Mtr Gask	
566 Citrus St	4/10/1974	8/18/2012	3/4"	BV	
2310 Red Rock Rd	7/1/1972	8/18/2012	3/4"	Mtr Coupl	
2157 Rio Grande	7/1/1967	8/18/2012	3/4"	Clamp	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
394 Whitewater Dr	7/1/1967	8/18/2012	3/4"	Mtr riser	
2395 Rio Dr	7/1/1970	8/18/2012	1"	Pvc	replaced reducer
1611 Hwy 95	7/1/1982	8/18/2012	3/4"	BV	
867 Stahlman Dr	2/5/1973	8/18/2012	3/4"	BV	
1604 Country Club Way	7/30/1992	8/18/2012	1"	Clamp	
2898 Camino Del Rio	5/9/1980	8/20/2012	3/4"	Pvc	Replaced cracked 90'
1730 Lnynn Dr	3/17/1975	8/21/2012	1"	Pvc	Flow loc and valve and rebuilt service
1450 Newberry Dr	7/1/1960	8/21/2012	1"	clamp	
2850 Camino Del Rio	5/9/1980	8/22/2012	3/4"	Pvc	Empty lot replaced nipple and valve
1551 Lincoln ln	1/19/1966	8/23/2012	1"	Pvc	Flow loc and valve and rebuilt service
1389 Cedar ln	7/1/1955	8/23/2012	3/4"	Dris	
2350 Adobe Rd	11/1/2003	8/23/2012	1"	Clamp	
818 Terrace Dr	2/5/1973	8/23/2012	3/4"	BV	
1047 Terrace Dr	7/1/1955	8/23/2012	3/4"		Leak on valve to empty lot turned valve off
2377 Seminole Dr	7/1/1972	8/23/2012	1"	Clamp	
1424 Monte Vista Dr	3/2/1971	8/23/2012	3/4"	Pvc	Replaced bushing at tee
2659 Avenida Grande	7/1/1985	8/24/2012	3/4"	BV	
1124 Papago Dr	7/1/1972	8/24/2012	1"	Clamp	
735 Riverfront Dr	2/5/1973	8/24/2012	1"	Pvc	Replaced tee at meter boxes
2350 Adobe Rd	11/1/2003	8/24/2012	5/8"	Brass	Meter had a crack in it
2866 Grandhill Rd	9/15/1990	8/24/2012	3/4"	BV	
323 Nevada Cir	7/1/1967	8/24/2012	3/4"	Clamp	
2132 Colorado Blvd	7/1/1967	8/25/2012	3/4"	Dris	Replaced 2' of poly
700 Holly St	3/17/1975	8/25/2012	3/4"	BV	
1375 Colorado Rio Vista	6/23/1968	8/25/2012	3/4"	BV	
905 Citrus St	4/28/1972	8/25/2012	3/4"	BV	
621 SeaFair Dr	7/1/1967	8/25/2012	3/4"	BV	
1083 Jocabima Dr	4/28/1972	8/29/2012	1"	Clamp	
1739 Corona Vista Dr	7/1/1985	8/29/2012	2"	Pvc	Flow loc and valve of blow off
315 River Glen and 4th	7/1/1970	8/30/2012	2"	Pvc	Replaced crack pvc fittings
2897 Grandhill Rd	9/15/1990	8/31/2012	1"	Dris	Clamp
2381 Acoma Dr	7/1/1972	8/31/2012	1"	Dris	Clamp
1450 Newberry Dr	7/1/1960	8/31/2012	1"	Tough tube	Fow loc and valve with a section
1829 Montery Dr	7/1/1967	9/3/2012	3/4"	Pvc	customerside cracked coupling
1848 El Monte Dr	7/1/1967	9/3/2012	1"	Pvc	Crack tee shutdown and rebuilt
363 Harbor Pl	7/1/1967	9/5/2012	3/4"	BV	
408 Harbor Dr	7/1/1967	9/5/2012	3/4"	BV	
2402 Castle Rock Cir	7/1/1967	9/5/2012	3/4"	Tough tube	Clamp
383 Rio Grande Way	7/1/1967	9/5/2012	1"	Pvc	Flow lock and valve because of crack tee
3003 Hwy 95	2/10/1986	9/6/2012	1"	Dris	Clamp
2779 Avenida Grande	7/1/1985	9/7/2012	1"	Vanguard	Clamp
1803 Surf Cv	9/22/1982	9/8/2012	1"	Vanguard	Clamp
2392 Merrill Ave	7/1/1982	9/8/2012	3/4"	Dris	Clamp
614 Ramar Rd	4/10/1974	9/8/2012	3/4"	BV	
1796 Tejon Dr	7/1/1959	9/8/2012	3/4"	BV	
241 Willowood Ln	7/1/1967	9/8/2012	3/4"	BV	
1884 El Monte Dr	7/1/1967	9/8/2012	3/4"	BV	
1682 Toro Rd	9/3/1971	9/8/2012	1"	Pvc	Replaced cracked tee to empty lot
286 Marina Blvd	7/1/1967	9/12/2012	3/4"	Mtr Gask	
1763 Sea Creek Dr	7/1/1967	9/13/2012	3/4"	BV	
921 Holly St	4/28/1972	9/14/2012	1"	Pvc	Replaced leaking tee and rebuilt
1740 Lynn Dr	3/17/1975	9/14/2012	3/4"	Pvc	Replaced broken nipple

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1465 Church St	5/7/1969	9/14/2012	3/4"	Pvc	Replaced cracked nipple and meter valve
2342 Merrill Ave	7/1/1982	9/15/2012	3/4"	Clamp	
221 Riverfront Dr	7/1/1980	9/15/2012	1"	Clamp	
1951 Riverbend Cir E	7/1/1967	9/15/2012	3/4"	Mtr riser	
2175 Riviera Blvd	7/1/1967	9/15/2012	1"	Clamp	
360 Harbor Pl	7/1/1967	9/15/2012	3/4"	BV	
2449 Merrill Ave	7/1/1982	9/15/2012	1"	Clamp	
2404 Castle Rock Cir	7/1/1967	9/16/2012	3/4"	Nipple	Crack nipple on customer side after replacement
876 Turney Dr	4/28/1972	9/17/2012	3/4"	BV	Replaced ball valve to set meter
901 Turney Dr	4/28/1972	9/17/2012	1"	Pvc	Tightened up flow loc under branch tee
1877 Granada Dr	7/1/1967	9/17/2012	1"	Pvc	Nipple broke on tee in empty lot
#11 East Shore Villas	7/1/1979	9/19/2012	1"	clamp	
2479 Ripple Dr	7/1/1970	9/21/2012	1"	Abs	Flow loc valve and rebuilt company side
2779 Paloma Senda	7/1/1985	9/22/2012	1"	Clamp	
612 Stahlman Dr	3/17/1975	9/22/2012	3/4"	BV	
1201 Mohave Dr	12/31/1964	9/25/2012	11/2"	Abs	Replaced leaking male adpt at main with valve and rebuilt
2200 Balboa Dr	7/1/1967	9/25/2012	3/4"	BV	
1254 Arcadia Blvd	10/28/1975	9/25/2012	1"	Pvc	Flow loc and valve and rebuilt tee to empty lot
2570 Corona Redonda	7/1/1985	9/26/2012	1"	Dris	Clamp
2359 Castle Rock Cir	7/1/1967	9/27/2012	3/4"	Tough tube	Clamp
Ramar PLZ and Palma	4/14/1968	9/27/2012	2"	Pvc	Flow loc and valve
2972 Ranch house RD	4/15/2003	9/28/2012	1"	Dris	Clamp
569 Havasu Ln	7/1/1967	9/28/2012	3/4"	Pvc	Repaired leak on cust side due to previous repair
2126 Colorado Blvd	7/1/1967	10/2/2012	3/4"	BV	
1935 Coronado Cir	7/1/1959	10/2/2012	1"	Pvc	replaced 2' of pvc due to broken fitting
878 Hancock Rd	7/1/1959	10/3/2012	3/4"	BV	
Hwy 95 Chase Bank		10/4/2012	2"	BV	
241 Lee Ave	7/1/1970	10/5/2012	1"	Vanguard	Clamp
274 Moser Ave	7/1/1970	10/5/2012	1"	Dris	Clamp
693 Daffodil	7/1/1959	10/6/2012	11/4"	Pvc	Cracked tee, spun off and rebuilt
1479 Summit Ln	4/14/1968	10/8/2012	1"	Pvc	Split on madt at main, put corp in and rebuilt
2001 Whitewater Dr	7/1/1967	10/8/2012	3/4"	Pvc	Flow lock valve and rebuilt company side
2725 Camino Del Rio	12/31/1964	10/8/2012	2"	Galvinized	Took out old service and plugged saddle
794 Sea Spray Dr	7/1/1959	10/9/2012	3/4"	Pvc	Replaced cracked tee
2508 Calle Bonita	7/1/1969	10/10/2012	3/4"	Pvc	Flow lock valve and rebuilt company side
693 Daffodil	7/1/1959	10/13/2012	3/4"	Pvc	Replaced split bushing
1273 Ramar Rd	1/19/1966	10/15/2012	1"	Dris	replaced 2' of poly and with two insta tites
2513 Majestic Way	1/22/2001	10/15/2012	1"	Dris	Clamp
2804 Colibri Court	7/1/1985	10/16/2012	1"	Dris	Clamp
2392 Rio Dr	7/1/1970	10/17/2012	1"	Pvc	replaced a 2' section
1594 Clover Ln	10/31/1968	10/17/2012	1"	Abs	flow loc and valve and rebuilt

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
942 Glen Rd	4/28/1972	10/18/2012	3/4"	BV	not open all the way
916 Church St	4/28/1972	10/18/2012	3/4"	Pvc	Replaced reducer
1679 Rio Vista Dr	9/3/1971	10/18/2012	3/4"	Copper	Replace meter riser
1272 Zircon Ave	1/19/1966	10/18/2012	1"	Pvc	Flow loc and replaced 5'
1072 Holly St	10/31/1968	10/18/2012	1"	Abs	Flow loc and valve and rebuilt tee
1355 Sahuaro Dr	7/1/1955	10/18/2012	3/4"	BV	
2274 Merrill Ave	7/1/1982	10/18/2012	3/4"	Pvc	Threaded on valve and replaced poly with pvc
2301 Desert Forest Ln	5/30/2006	10/18/2012	3/4"	Pvc	customerside cracked coupling
1699 Ramar Rd	9/3/1971	10/19/2012	1"	Pvc	Replaced cracked bushing
1851 Capistrano Ln		10/19/2012	3/4"	BV	
344 Nevada Dr	7/1/1967	10/20/2012	3/4"	BV	
1041 Riverfront Dr	7/1/1955	10/20/2012	3/4"	BV	
1915 Granada Dr	7/1/1967	10/20/2012	3/4"	BV	
2232 MountainSide Dr	9/24/1998	10/20/2012	1"	Dris	Clamp
629 Holly St	4/10/1974	10/20/2012	3/4"	Pvc	replaced broken nipple due to customer turning our valve.
344 Nevada Dr	7/1/1967	10/22/2012	3/4"	Pvc	replaced broken street ell
855 Sea Spray Dr	7/1/1959	10/22/2012	3/4"	Dris	Clamp
1325 Navajo Dr	7/1/1972	10/22/2012	3/4"	Mtr riser	
1275 Quartz Ave	6/7/1966	10/22/2012	3/4"	Pvc	Replaced flow loc and valve
561 Rivera Blvd	7/1/1967	10/24/2012	1"	Dris	Clamp
912 Church St	4/28/1972	10/24/2012	3/4"	Pvc	Replaced cracked nipple
785 Riverview Dr	7/1/1967	10/26/2012	1"	Dris	Clamp
1222 Puerta Vista	12/31/1964	10/26/2012	3/4"	BV	
2150 Bermuda DR	7/1/1967	10/26/2012	3/4"	Pvc	Replaced cracked street ell
831 Baseline Rd	2/5/1973	10/26/2012	1"	BV	
1424 Monte Vista Dr	3/2/1971	10/26/2012	3/4"	Pvc	Replaced cracked pvc nipple
1594 Clover Ln	10/31/1968	10/27/2012	1"	Pvc	Flow loc and valve and rebuilt
2022 Merrill Ln	7/1/1982	10/27/2012	3/4"	Mtr riser	Replaced meter riser
Pocito Ln		10/27/2012	2"	Poly	Cleaned valve and pack joint and reinstalled
1779 Artesia Dr	7/1/1967	10/30/2012	3/4"	Brass	Replaced leaking brass tee
414 Emery Dr	10/6/1993	10/30/2012	3/4"	BV	
1075 Paseo Redondo	7/1/1969	10/30/2012	3/4"	BV	
2001 Hwy 95	7/1/1972	10/30/2012	1"	Pvc	Flow loc and valve and rebuilt
2001 Hwy 95	7/1/1972	10/31/2012	2"	Abs	Flow loc and valve and replaced 2' with pvc
1663 Hwy 95	7/1/1982	11/1/2012	2"	Pvc	Flow loc and valve and rebuilt
364 Anna Cir	7/1/1980	11/2/2012	3/4"	Meter	Bottom of the meter blew out
1388 Winkler Ln	6/23/1968	11/3/2012	3/4"	Galvinized	Replaced galvinized coupling
621 Seafair Dr	7/1/1967	11/3/2012	3/4"	Copper	Cut out leaking flare valve
604 Havasu Ln	7/1/1967	11/3/2012	3/4"	Dris	Clamp
628 Ramar Rd	3/17/1975	11/8/2012	3/4"	Pvc	Replaced nipple and ball valve
1275 Quartz Ave	6/7/1966	11/8/2012	1"	Pvc	Replaced leaking tee and rebuilt
2671 Country Club Dr	7/1/1972	11/12/2012	3/4"	Mtr riser	
776 Palo Verde	2/5/1973	11/12/2012	3/4"	Mtr Gask	
791 Stahlman Dr	2/5/1973	11/12/2012	3/4"	Mtr Gask	
2627 Discovery Rd	6/3/2005	11/14/2012	1"	Dris	Clamp
2022 Merrill Ln	7/1/1982	11/14/2012	2"	Pvc	Replaced split 90
639 Roadrunner Dr	3/17/1975	11/14/2012	1"	Pvc	Replaced broken nipple and meter valve
2350 Adobe Rd	11/1/2003	11/14/2012	1"	Dris	Clamp
2588 Majestic Way	1/22/2001	11/15/2012	1"	Dris	Clamp

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1107 Papago Dr	7/1/1972	11/16/2012	3/4"	BV	
1127 Avinda Del Sol	12/31/1967	11/16/2012	3/4"	Mtr Gask	Replaced meter gasket on company side
1879 Del Norte Dr	7/1/1967	11/19/2012	3/4"	Dris	Clamp
2254 Starflower Trl	5/29/1997	11/19/2012	3/4"	Mtr Gask	Replaced meter gasket on company side
607 Malibu cir	7/1/1967	11/19/2012	1"	Pvc	Replaced cracked tee
2100 Sweetwater Dr	7/1/1967	11/20/2012	3/4"	Brass	Replaced broken corp and small section of service line
1326 Arcadia Blvd	10/28/1975	11/20/2012	1"	Pvc	Replaced cracked coupling
854 Brill Dr	2/5/1973	11/21/2012	3/4"	BV	
1911 Orca Ln	7/1/1967	11/21/2012	3/4"	BV	
241 Willowood Ln	7/1/1967	11/21/2012	3/4"	Pvc	Replaced broken coupling
946 Sea Spray dr	7/1/1959	11/21/2012	3/4"	BV	
2300 Acoma Dr	7/1/1972	11/21/2012	1"	Dris	Clamp
2049 Swan Cir	7/1/1967	11/24/2012	1"	Abs	Replaced 2' of bad pipe
1926 Del Norte Dr	7/1/1967	11/24/2012	3/4"	BV	
2591 Country Club Dr	7/1/1972	11/25/2012	3/4"	Pvc	Replaced broken street ell
1508 Palma Rd	1/19/1966	12/4/2012	3/4"	BV	
1648 Emerald Dr	6/7/1966	12/4/2012	1"	Pvc	Replaced cracked tee and rebuilt
1570 Loma Vista Rd	4/28/1972	12/4/2012	3/4"	BV	
2558 Via Arroyo	5/6/1969	12/4/2012	3/4"	BV	
1450 Newberry Dr	7/1/1960	12/4/2012	1"	Pvc	Replaced pvc ball valve on flow loc
1065 Rosebud Dr	7/1/1972	12/5/2012	3/4"	BV	
1642 Arena Dr	3/2/1971	12/6/2012	3/4"	Pvc	Replaced broken nipple behind curbstop
1497 Arena Ct	10/28/1975	12/6/2012	3/4"	Pvc	Replaced cracked nipple and meter valve
1350 Arcadia Blvd	10/28/1975	12/6/2012	1"	Pvc	Replaced cracked nipple and meter valve
1730 Lnynn Dr	3/17/1975	12/12/2012	1"	BV	
1436 Rio Vista Dr	3/2/1971	12/13/2012	3/4"	BV	
1424 Monte Vista Dr	3/2/1971	12/13/2012	3/4"	Pvc	Replaced cracked nipple and valve
1483 Colina Dr	10/28/1975	12/13/2012	3/4"	Pvc	Replaced cracked nipple and valve
860 Brill Dr	2/5/1973	12/13/2012	3/4"	BV	
870 Brill Dr	2/5/1973	12/13/2012	3/4"	Pvc	replaced cracked nipple and vavle
1419 Dorado Cir	3/2/1971	12/13/2012	3/4"	Mtr Gask	
981 Stahlman Dr	4/28/1972	12/14/2012	1"	Pvc	Tightened up flow loc
1364 Trane Rd	6/23/1968	12/14/2012	3/4"	BV	
826 Palo Verde	2/5/1973	12/15/2012	1"	Pvc	Flow loc and rebuilt service
1952 Riverbend Cir E	7/1/1967	12/15/2012	3/4"	Tough tube	Flow loc and rebuilt service
1705 Trane RD	2/21/1966	12/15/2012	3/4"	Dris	Clamp
779 Holly St	2/5/1973	12/17/2012	3/4"	BV	
1200 Country Club Cove	5/9/1980	12/18/2012	3/4"	Mtr Coupl	Tightend meter coupler on customer side
1858 Montery Dr	7/1/1967	12/19/2012	3/4"	BV	
1876 Colorado Blvd	7/1/1967	12/20/2012	3/4"	Pvc	Flow loc and valve
1439 Bryan Dr	6/23/1968	12/21/2012	1"	Copper	Valve on old repair leaking cut and rebuilt
2022 Merrill Ln	7/1/1982	12/22/2012	2"	Poly	Cut out leaking section of poly
2892 Hunington Ln	5/9/1996	12/25/2012	1"	Dris	Clamp
2022 Merrill Ln	7/1/1982	12/26/2012	2"	Dris	Put in valve and a new piece of poly
2854 Cresthill Dr	9/15/1990	12/27/2012	1"	BV	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1691 Hwy 95	7/1/1982	1/4/2013	2"	Pvc	Dug down flow loc and valve and rebuilt
967 Marina Blvd	7/1/1967	1/6/2013	1"	Abs	Cut out 2' and replaced with pvc
1641 Williams Way	9/3/1971	1/6/2013	1"	Pvc	Replaced crack bushing
1230 Jasper Ave	2/21/1966	1/8/2013	3/4"	BV	
1764 Colorado Blvd	7/1/1967	1/11/2013	1"	Pvc	APL hit service flow loc valve and replaced 3'
1641 River Gardens Dr	2/5/1973	1/15/2013	3/4"	BV	
497 Riverfront Dr	7/1/1980	1/15/2013	3/4"	Copper	Replaced leaking flare adapter
1848 El Monte Dr	7/1/1967	1/15/2013	1"	Pvc	Replaced pvc tee with brass fittings
3081 Milano Dr	7/1/2008	1/15/2013	1"	Copper	City hit mismarked copper line replaced 10'
2022 Merrill Ln	7/1/1982	1/18/2013	1"	Poly	Replace 2' of poly service
231 Riverwood Ln	7/1/1967	1/21/2013	1"	Abs	APL hit service flow loc valve and replaced 2'
2381 Crimson Rd	4/15/2003	1/24/2013	1"	Drisc	Clamp
245 Riverwood Ln	7/1/1967	1/27/2013	3/4"	Pvc	APL hit service flow loc valve and replaced 2'
1221 Gemstone ave	2/21/1966	1/28/2013	3/4"	Pvc	Replaced cracked nipple
2592 Avenida Grande	7/1/1985	1/29/2013	1"	Drisc	Clamp
2267 Riverview Ct	7/1/1972	1/29/2013	3/4"	Pvc	Replaced broken nipple and ball valve
189 Riverwood Ln	7/1/1967	1/29/2013	3/4"	Tuff Tube	APL hit service flow loc valve and replaced 2'
2294 Riverview Cir	7/1/1972	1/31/2013	3/4"	Pvc	Replaced cracked nipple and meter valve
1795 Colorado Blvd	7/1/1967	1/31/2013	1"	Abs	Clamp
1373 Baseline Rd	6/23/1968	1/31/2013	1"	Drisc	Clamp
2455 Majestic Way		1/31/2013	1"	Drisc	Clamp
454 Stieger Dr	7/1/1967	2/1/2013	3/4"	Mtr Riser	Replace meter riser
2335 Riverview Cir W	7/1/1972	2/5/2013	3/4"	BV	
1011 Papago Dr	7/1/1972	2/6/2013	3/4"	BV	
2279 Riverview Cir E	7/1/1972	2/6/2013	3/4"	BV	
1114 Riverview Dr	7/1/1972	2/6/2013	3/4"	BV	
2960 Silver Creek Rd		2/7/2013	BV	BV	
311 Nevada Dr	7/1/1967	2/10/2013	3/4"	Poly	Replaced 2' of service line
1012 Merrill Ct	7/1/1982	2/11/2013	3/4"	Brass	Replaced brass nipple
2898 Cresthill Dr	9/15/1990	2/12/2013	1"	Vangaurd	Clamp
784 Terrace Dr	2/5/1973	2/15/2013	3/4"	Mtr Gasket	
1043 Riverfront Dr	7/1/1955	2/15/2013	3/4"	BV	
1636 Alta Vista Rd	6/2/1970	2/15/2013	3/4"	BV	
573 Citrus St	4/10/1974	2/15/2013	3/4"	BV	
1326 Arcadia Blvd	10/28/1975	2/16/2013	1"	Pvc	Replaced cracked male adt at saddle and installed corp
836 Holly St	2/5/1973	2/17/2013	1"	Pvc	Replaced cracked bushing at tee
367 Anna Cir	7/1/1980	2/18/2013	1"	Brass	Replaced leaking brass bushing
586 Citrus St	4/10/1974	2/18/2013	3/4"	BV	
1195 Qaurtz Ave	2/21/1966	2/18/2013	1"	BV	
310 Sea Creek Dr	7/1/1967	2/19/2013	3/4"	BV	
1705 Gemstone Ave	12/5/1973	2/19/2013	3/4"	Poly	Clamp
1767 Forest Dr	7/1/1967	2/19/2013	3/4"	Pvc	replaced nipple and meter valve
1368 Zircon Ave	1/19/1966	2/19/2013	3/4"	Mtr Riser	
2748 Country Club Dr	7/1/1972	2/25/2013	3/4"	Mtr Coupl	
1475 Sunset Ln	7/1/1972	2/25/2013	3/4"	Pvc	Flow lock and meter valve

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1559 Paige Dr	4/10/1974	2/28/2013	3/4"	BV	
359 Meander Dr	7/1/1967	2/28/2013	3/4"	BV	
1041 Riverfront Dr	7/1/1955	3/3/2013	3/4"	Pvc	Broken nipple flow loc and meter valve
1043 Riverfront Dr	7/1/1955	3/8/2013	3/4"	Pvc	Move services from behind block wall
843 Ramar Rd	2/5/1973	3/11/2013	1"	Pvc	Replaced tee and meter valves
1497 Arena Ct	10/28/1975	3/11/2013	3/4"	Pvc	Replaced leaking bushing and ball valve
971 Holly St	4/28/1972	3/12/2013	3/4"	Pvc	Replaced cracked tee
2647 Avenida Grande	7/1/1985	3/13/2013	3/4"	BV	
975 Holly St	4/28/1972	3/14/2013	1"	Pvc	Replaced pvc tee nipples and bushing with brass
367 Anna Cir	7/1/1980	3/20/2013	1"	Clamp	
434 Anna Cir	7/1/1980	3/21/2013	1"	Brass	Apl hit brass branch that was on its mark in empty lot
843 Ramar Rd	2/5/1973	3/21/2013	1"	Pvc	Replaced pvc tee with brass
2547 Majestic Way	1/22/2001	3/23/2013	1"	Pvc	Customerside broke due to new service line
2519 Country Club Dr	1/2/1972	3/25/2013	3/4"	Mtr Gasket	
351 Anna Cir	7/1/1980	3/25/2013	1"	Copper	APL his our line
711 Malibu	7/1/1967	3/26/2013	1"	BV	
1883 Surf and Sand Dr	7/1/1959	3/26/2013	3/4"	Pvc	Replaced leaking flow lock and rebuilt
2183 Lakeside Dr	7/1/1967	3/26/2013	3/4"	BV	
2331 Acoma Pl	7/1/1972	3/26/2013	3/4"	BV	
1142 Cibique Dr	7/1/1972	3/26/2013	1"	Clamp	
1856 Granada Dr	7/1/1967	4/3/2013	3/4"	BV	
1924 Montclair Dr	7/1/1967	4/3/2013	1"	Pvc	replaced cracked madt at tee
2061 Lause Bay	5/9/1980	4/3/2013	3/4"	Mtr Gasket	
2195 Bermuda Dr	7/1/1967	4/5/2013	3/4"	Clamp	
2190 Kingston Ln	7/1/1967	4/8/2013	3/4"	BV	
701 Malibu	7/1/1967	4/8/2013	11/4"	Pvc	Replaced tee and rebuilt
1081 Church St	10/31/1968	4/8/2013	3/4"	Pvc	Replaced leaking pvc nipple
1932 Oliver Dr	7/1/1967	4/9/2013	3/4"	Pvc	Replaced pvc bushing
400 Swan Dr	7/1/1980	4/9/2013	3/4"	BV	
1101 Copper Dr	7/1/1982	4/13/2013	1"	Clamp	
1091 Chappparel Dr	7/2/1971	4/13/2013	3/4"	Copper	Replaced a 1' section of poly with copper
731 Morro Cv	7/1/1967	4/15/2013	1 1/2"	Pvc	Replaced a leaking bushing above pvc valve
549 Ramar Rd	4/10/1974	4/16/2013	1"	Clamp	
566 Malibu cir N	7/1/1967	4/17/2013	3/4"	BV	
971 Skippers Cv	7/1/1967	4/22/2013	1"	Abs	flow loc and valve and replaced 1' of pipe
2936 Country Club Dr	5/9/1980	4/22/2013	3/4"	BV	
1302 Lause rd	5/9/1980	4/23/2013	1"	Pvc	flow loc and valve and replaced 2' of pipe
973 Skippers Cv	7/1/1967	4/23/2013	1"	Pvc	flow loc and vavle and replaced 1' of pipe
952 Sandy Cv	7/1/1967	4/24/2013	1"	Abs	Clamp
1675 Highway 95	7/1/1982	4/24/2013	2"	Pvc	flow loc and valve and replaced 2' of pipe
963 Riverfront Dr	4/28/1972	4/29/2013	1"	Brass	Replaced brass nipple
345 Riverfront Dr	7/1/1980	4/29/2013	3/4"	BV	

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1960 W Riverbend Cir	7/1/1967	4/29/2013	3/4"	BV	
2250 Hwy 95	6/1/1986	5/2/2013	1 1/2"	Pvc	Flow loc and valve and replace 3' of pvc
2298 Merrill Ave	7/1/1982	5/4/2013	3/4"	Clamp	
1510 Emerald Rd	1/19/1966	5/6/2013	3/4"	Brass	Small hole in meter coupling
1677 Yale Dr	3/17/1975	5/7/2013	3/4"	Pvc	Replaced cracked nipple and meter valve
1011 Navajo Dr	7/1/1972	5/8/2013	3/4"	BV	
2158 Rio Grande	7/1/1967	5/8/2013	3/4"	BV	
1827 Cyprus Ln	7/1/1967	5/8/2013	3/4"	Pvc	Replaced cracked bushing at tee
1654 Balsa Rd	9/3/1971	5/8/2013	3/4"	BV	
2254 Red Rock Rd	7/1/1972	5/8/2013	3/4"	BV	
2530 Country Club Dr	5/6/1969	5/9/2013	3/4"	BV	
2300 Acoma Pl	7/1/1972	5/11/2013	3/4"	BV	
766 Holly St	2/5/1973	5/11/2013	3/4"	Pvc	Replaced cracked nipple and Ball valve
1803 Surf Cv	9/22/1982	5/11/2013	1"	Clamp	
1772 Sea Breeze Ln	7/1/1959	5/12/2013	1"	Abs	Abandon service not feeding anything
922 Seafair Dr	7/1/1967	5/14/2013	1"	Pvc	Apl broke nipple in meter box
1925 Colorado Blvd	7/1/1967	5/14/2013	1"	Pvc	Service broke after it was replaced on customer side
424 Ana Cir	7/1/1980	5/14/2013	3/4"	Pvc	Repaired customer side do to repair from a month ago
592 Seafair Dr	7/1/1967	5/15/2013	1"	Pvc	Replaced pvc tee and rebuilt
1984 Colorado Blvd	7/1/1967	5/15/2013	3/4"	Pvc	Backflow installed backwards
1981 Riverbend Cir		5/16/2013	1"	Clamp	
1560 Paige Dr	4/10/1974	5/16/2013	3/4"	Pvc	Customer side broke due to previous service replacement
1363 Qaurtz Ave	6/7/1966	5/17/2013	3/4"	BV	
2109 Rio Grande	7/1/1967	5/17/2013	3/4"	BV	
831 Citrus St	2/5/1973	5/17/2013	3/4"	BV	
1625 River Gardens Dr	2/5/1973	5/17/2013	3/4"	BV	
1386 Church St	5/7/1969	5/17/2013	3/4"	ABS	Replaced tee flow lock valve and rebuilt
766 Holly St	2/5/1973	5/18/2013	3/4"	Pvc	Replaced nipple and valve
1785 Colorado Blvd	7/1/1967	5/20/2013	3/4"	Mtr Gasket	
1996 E Riverbend Cir	7/1/1967	5/20/2013	3/4"	BV	
760 Stahlman Dr	2/5/1973	5/20/2013	3/4"	BV	Rebuilt customer side
836 Stahlman Dr	2/5/1973	5/20/2013	3/4"	BV	
1188 Juanita In	7/1/1982	5/20/2013	3/4"	BV	
2400 Merrill Ave	7/1/1982	5/20/2013	3/4"	Clamp	
1885 Rio Vista Dr	9/3/1971	5/22/2013	3/4"	BV	
2022 Merrill Ln	7/1/1982	5/23/2013	2"	Pvc	Tee split rebuilt pvc
919 Seafair Dr	7/1/1967	5/28/2013	3/4"	BV	
1071 Papago Dr	7/1/1972	5/28/2013	3/4"	Mtr Coupl	
604 Havasu In	7/1/1967	5/29/2013	3/4"	Clamp	
2539 Country Club Dr	5/6/1969	5/29/2013	3/4"	BV	
604 Havasu In	7/1/1967	5/29/2013	3/4"	Clamp	
922 Surf Spray Dr	1/26/1987	5/30/2013	3/4"	BV	
2071 Buccaneer Dr	7/1/1967	5/31/2013	3/4"	Brass	Replaced leaking brass nipple and meter valve
2655 Paloma Senda	7/1/1985	6/1/2013	1"	Clamp	
760 Holly St	2/5/1973	6/1/2013	1"	Pvc	Cracked tee rebuilt with brass

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
1386 Church St	5/7/1969	6/2/2013	3/4"	Pvc	customer side broke due to service replacement
760 Stahlman Dr	2/5/1973	6/3/2013	1"	Pvc	Repaired cust side due to previous repair
1784 Colorado Blvd	7/1/1967	6/3/2013	3/4"	Pvc	Replaced broken nipple and valve
1825 Cyprus Ln	7/1/1967	6/3/2013	3/4"	Pvc	Replaced cracked reducer nipple and valve
759 Stahlman Dr	2/5/1973	6/3/2013	3/4"	BV	
1790 Ramar Rd	9/3/1971	6/3/2013	3/4"	BV	
571 Riverfront Dr	4/10/1974	6/3/2013	3/4"	BV	
1650 Mesa Vista Dr	6/2/1970	6/3/2013	3/4"	Pvc	Flow locked and valved cracked nipple off tee
1687 Alta Vista Ln	6/2/1970	6/3/2013	3/4"	BV	
2152 Riviera Blvd	7/1/1967	6/4/2013	3/4"	BV	
565 Malibu	7/1/1967	6/4/2013	3/4"	BV	
571 Riverfront Dr	4/10/1974	6/4/2013	3/4"	Pvc	Replaced cracked pvc coupler
1276 Riverfront Rd	6/23/1968	6/4/2013	3/4"	BV	
1145 Hyw 95	7/1/1970	6/4/2013	3/4"	BV	
2022 Merrill Ln	7/1/1982	6/4/2013	2"	Poly	Replaced 1' section of poly due to split
916 Surf Spray Dr	1/26/1987	6/7/2013	3/4"	BV	
2655 Paloma Senda	7/1/1985	6/8/2013	1"	Poly	Replaced 4 of poly
2627 Discovery Rd	6/3/2005	6/8/2013	1"	Pvc	Replaced customer side coupling
354 Meander Dr	7/1/1967	6/9/2013	1"	Clamp	
2017 Rio Grande	7/1/1967	6/12/2013	3/4"	BV	
1371 Colorado Rio Vista	6/23/1968	6/12/2013	3/4"	BV	
1571 Garnet Ln	1/16/1968	6/13/2013	3/4"	Mtr Coupl	
2350 Miracle Mile Rd	5/11/1989	6/13/2013	2"	Clamp	
1805 Ramar Rd	9/3/1971	6/14/2013	3/4"	Pvc	Replaced pvc nipple and ball valve
356 Meander Dr	7/1/1967	6/14/2013	3/4"	Pvc	Replaced cracked coupling
1941 Robson Cir	7/1/1967	6/14/2013	3/4"	Pvc	Replaced cracked coupling
2348 Merrill Ave	7/1/1982	6/15/2013	1"	Clamp	
840 Holly St	2/5/1973	6/19/2013	1"	Pvc	Replaced cracked tee
1472 Lause Rd	5/9/1980	6/21/2013	3/4"	Pvc	Replaced cracked nipple and ball valve
697 Lilac Ln	7/1/1959	6/21/2013	1"	Clamp	
2889 Camino Del Rio	5/9/1980	6/24/2013	3/4"	BV	
2519 Country Club Dr	1/2/1972	6/24/2013	3/4"	Mtr Riser	
1854 Monterey Dr	7/1/1967	6/25/2013	1"	Pvc	Replaced nipple above saddle with valve
336 Santa Cruz Ave	7/1/1967	6/25/2013	3/4"	Clamp	
1302 Zircon Ave	1/19/1966	6/26/2013	1"	Tuff Tube	Flow loc valve and rebuilt service
739 Daisy Dr	7/1/1959	6/26/2013	3/4"	BV	
1810 Rio Grande Way	7/1/1967	6/26/2013	3/4"	Pvc	Broken nipple at tee
1970 Vader Ln	11/1/1990	6/26/2013	3/4"	Mtr Gasket	Customers side of meter
1200 Ramar Rd	10/31/1968	6/26/2013	1"	BV	
1803 Forest Way	7/1/1967	6/26/2013	3/4"	BV	
1590 Paige Dr	4/10/1974	6/26/2013	1"	BV	
507 Riverfront Dr	4/10/1974	6/26/2013	1"	BV	
975 Church St	4/28/1972	6/26/2013	3/4"	BV	
2960 Silver Creek Rd		6/26/2013	3/4"	BV	
1906 Castle Berry Ln	7/1/1967	6/26/2013	3/4"	Pvc	Replaced cracked nipple and meter valve
784 Ramar Rd	2/5/1973	6/27/2013	3/4"	BV	

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ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
831 Roadrunner Dr	2/5/1973	6/27/2013	3/4"	BV	
826 Glen Rd	2/5/1973	6/27/2013	1"	Pvc	Replaced cracked tee and rebuilt
790 Holly St	2/5/1973	6/27/2013	3/4"	BV	
779 Morro Cv	7/1/1967	6/27/2013	3/4"	BV	
352 Meander Dr	7/1/1967	7/1/2013	3/4"	Pvc	Repaired cust side after previous repair
831 Roadrunner Dr	2/5/1973	7/5/2013	1"	Pvc	Replaced leaking tee
2089 Balboa Dr	7/1/1967	7/5/2013	1"	Pvc	Replaced a section of service do to contractor hitting it
1885 Del Norte Dr	7/1/1967	7/8/2013	3/4"	Poly	Clamp
1579 Clover Ln	10/31/1968	7/10/2013	3/4"	Pvc	replaced cracked nipple and valve
1109 Baseline Bay	10/31/1968	7/10/2013	3/4"	BV	
1354 Mirada Dr	5/7/1969	7/10/2013	3/4"	BV	
2139 Del Rey Dr	7/1/1967	7/11/2013	3/4"	BV	
2099 Colorado Blvd	7/1/1967	7/11/2013	3/4"	BV	
1649 Palma Rd	6/7/1966	7/11/2013	3/4"	Drisc	Replaced 1' section of poly due to split
1961 Hwy 95	4/14/1968	7/11/2013	3/4"	BV	Had to rebuild cust side
1800 Clubhouse Dr	7/1/1979	7/11/2013	3/4"	BV	
992 Andy Ln	11/6/2000	7/11/2013	1"	Clamp	
2359 Castle Rock Cir	7/1/1967	7/11/2013	3/4"	Clamp	
6th & Palm	1/10/1972	7/11/2013	1"	Pvc	Contractor hit unmarked service
2338 MorningSide Dr	3/31/1997	7/13/2013	3/4"	Pvc	Rebuild customer side
1810 Rio Grande Way	7/1/1967	7/15/2013	3/4"	Pvc	Replaced cracked nipple and ball valve
935 Seafair Dr	7/1/1967	7/15/2013	3/4"	Clamp	
2135 Hermosa Dr	7/1/1967	7/15/2013	3/4"	Clamp	
951 Sea Spray Dr	1/15/1979	7/15/2013	3/4"	BV	
1948 Merced Dr	7/1/1967	7/15/2013	3/4"	Mtr Gasket	
1912 Artesia Dr	7/1/1967	7/15/2013	3/4"	BV	
1204 Country Club CV	5/9/1980	7/15/2013	3/4"	BV	
946 Stahlman Dr	4/28/1972	7/15/2013	3/4"	Mtr Gasket	
2674 Country Club Dr	7/1/1972	7/15/2013	3/4"	Clamp	
1208 Lause Rd	5/9/1980	7/16/2013	1"	Pvc	Replaced tee and rebuilt
1707 Mohave Dr		7/17/2013	2"	Pvc	Pvc at end of main cracked and replaced 25 of poly
1912 Artesia Dr	7/1/1967	7/17/2013	3/4"	Abs	Crack in tee and rebuilt
171 Palm Ave	7/1/1970	7/18/2013	3/4"	BV	
1595 Marble Canyon Dr	6/1/1986	7/18/2013	1"	Clamp	
571 Riverfront Dr	4/10/1974	7/18/2013	3/4"	BV	
2893 Country Hills Rd	9/15/1990	7/20/2013	3/4"	Mtr Gasket	
1472 Summit Ln	4/14/1968	7/20/2013	1"	Pvc	Flow loc and valve below tee and rebuilt
2338 MorningSide Dr	3/31/1997	7/21/2013	3/4"	Pvc	Crack on pvc 90
519 Sea Spray Dr	7/1/1967	7/22/2013	3/4"	BV	
265 Meander Dr	7/1/1967	7/22/2013	1"	Pvc	Replaced leaking Tee
425 Emery Dr	1/10/1989	7/22/2013	3/4"	BV	
2052 Diamond Dr	7/1/1967	7/22/2013	3/4"	BV	
379 Swan Dr	10/6/1993	7/26/2013	3/4"	BV	
1599 Paige Dr	2/26/1992	7/26/2013	2"	Poly	Cut out leak on blow off to eliminate leak
2296 Merrill Ave	7/1/1982	7/27/2013	3/4"	Clamp	
2392 Rio Dr	7/1/1970	7/27/2013	1"	Abs	Replaced 4' section with pvc
265 Meander Dr	7/1/1967	7/28/2013	3/4"	Pvc	Replaced cracked nipple at tee

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
414 Santa Maria Rd	7/1/1967	7/29/2013	3/4"	BV	
1700 Williams Dr	9/3/1971	7/29/2013	1"	Pvc	flow loc and valve and rebuilt tee
908 Swan Dr	7/1/1967	7/29/2013	3/4"	BV	
913 Safari Dr	7/1/1967	7/29/2013	1"	Abs	Replaced male adpt at tee and rebuilt
1616 Dean Dr	3/17/1975	7/29/2013	1"	Pvc	Tightened up leaking flow loc
394 Santa Maria Rd	7/1/1967	7/30/2013	3/4"	BV	
2175 Oswood Ln	7/1/1967	7/30/2013	1"	BV	
457 Malibu Dr	7/1/1967	7/31/2013	1"	Abs	flow loc and valve on glued nipple at tee
1692 Toro Rd	9/3/1971	8/1/2013	3/4"	BV	
1846 Artesia Dr	7/1/1967		BV	BV	
2084 Whitewater Dr	7/1/1967			Saddle	Tied back into copper Line

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2883 Desert Vista Dr	6/2/1996	9/1/2004	3/4"	1" Vanguard	
2888 Desert Vista Dr	6/2/1996	11/18/2004	1"	1" Vanguard	
2876 Desert Vista Dr	6/2/1996	5/23/2005	3/4"	1" Vanguard	
2890 Desert Vista Dr	6/2/1996	6/30/2005	1"	1" Vanguard	
2842 Cactus Bloom Dr	6/2/1996	7/20/2005	1"	1" Vanguard	
2878 Desert Vista Dr	6/2/1996	6/21/2007	1"	Copper	Pulled svc
2886 Desert Vista Dr	6/2/1996	6/29/2007	3/4"	Copper	
2892 Desert Vista Dr	6/2/1996	11/7/2007	3/4"	Copper	
2890 Desert Vista Dr	6/2/1996	11/28/2007	1"	Copper	
2888 Desert Vista Dr	6/2/1996	12/6/2007	1"	Copper	
2884 Dseert Vista Dr	6/2/1996	12/7/2007	1"	Copper	
2898 Desert Vista Dr	6/2/1996	12/21/2007	1"	Copper	
2894 Desert Vista Dr	6/2/1996	12/28/2007	1"	Copper	
2880 Desert Vista Dr	6/2/1996	1/8/2008	3/4"	Copper	
2887 Desert Vista Dr	6/2/1996	2/6/2008	3/4"	Copper	
2889 Desert Vista Dr	6/2/1996	2/7/2008	3/4"	Copper	
2885 Desert Vista Dr	6/2/1996	2/12/2008	3/4"	Copper	
2851 Cactus Bloom Dr	6/2/1996	3/28/2008	1"	Copper	
2831 La Paloma Dr	12/9/2002	4/8/2008	1'	J-m	
2887 La Paloma Dr	12/9/2002	4/24/2008	1"	Copper	
2942 La Paloma Dr	7/1/1995	5/22/2008	1"	Copper	
2833 Sidewheel Dr	4/19/2005	6/4/2008	1"	Copper	
2912 Desert Trail Dr	6/2/1996	6/5/2008	1"	Copper	
2876 Desert Vista Dr	6/2/1996	6/16/2008	1"	Copper	
1438 Pioneer Trl	4/19/2005	6/23/2008	1"	Copper	
2756 Desert Stars Ln	12/9/2002	6/25/2008	1"	Copper	
2853 Ventana Dr	12/9/2002	7/23/2008	1"	Copper	
2815 Singing Breeze Ln	12/9/2002	7/29/2008	1"	Copper	
2774 Desert Stars Ln	12/9/2002	8/6/2008	1"	Copper	
2970 Los Pueblos Dr	7/1/1995	8/18/2008	1"	Copper	
2784 Singing Breeze Ln	12/9/2002	8/18/2008	1"	Copper	
2891 Steamboat Dr	4/19/2005	8/19/2008	1"	Copper	
2775 La Paloma Dr	12/9/2002	8/20/2008	1"	Copper	
2823 La Paloma Dr	12/9/2002	9/2/2008	1"	Copper	
2660 Bella Casa Ln	2/3/2004	9/2/2008	1'	Copper	
2654 Bella Casa Ln	2/3/2004	9/10/2008	1"	Copper	
2895 Desert Heights Dr	6/2/1996	9/18/2008	1"	Copper	
2818 Fort Mojave Dr	4/19/2005	10/15/2008	1"	Copper	
2930 Desert Vista Dr	6/2/1996	11/1/2008	1"	Copper	
2849 Fort Mojave Dr	4/19/2005	11/8/2008	1"	Copper	
2736 La Paloma Dr	12/9/2002	11/24/2008	1"	Copper	
2901 Esmeralda Dr	4/19/2005	11/29/2008	1"	Copper	
2820 Steamboat Dr	4/19/2005	12/30/2008	1"	Copper	
2786 Desert Stars Ln	12/9/2002	1/17/2009	1"	Copper	
2783 La Paloma Dr	12/9/2002	1/21/2009	1"	Copper	
2791 Singing Breeze Ln	12/9/2002	1/27/2009	1"	Copper	
2792 Singing Breeze Ln	12/9/2002	1/27/2009	1"	Copper	
2821 Singing Breeze Ln	12/9/2002	1/27/2009	1"	Copper	
2823 Desert Song Dr	12/9/2002	2/4/2009	1"	Copper	
2718 Sidewheel Dr	4/19/2005	2/12/2009	1"	Copper	
2746 Sidewheel Dr	4/19/2005	2/26/2009	1"	Copper	
2773 Singing Breeze Ln	12/9/2002	3/18/2009	1"	Copper	
972 Desert Nights Ln	7/1/1995	3/23/2009	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2768 Desert Stars Ln	12/9/2002	3/31/2009	1"	Copper	
2884 Desert Stars Ln		3/31/2009	1"	Copper	
2876 Esmeralda Dr	4/19/2005	4/15/2009	1"	Copper	
2881 Sidewheel Dr	4/19/2005	4/15/2009	1"	Copper	
2897 Fort Mojave Dr	4/19/2005	4/17/2009	1"	Copper	
2791 Sidewheel Dr	4/19/2005	4/24/2009	1"	Copper	
2833 Singing Breeze Ln	12/9/2002	4/27/2009	1"	Copper	
2805 Steambost Dr	4/19/2005	4/30/2009	1"	Copper	
2784 La Paloma Dr	12/9/2002	5/4/2009	1"	Copper	
2837 Esmeralda Dr	4/19/2005	5/11/2009	1"	Copper	
2661 Bella Casa Ln	2/3/2004	5/15/2009	1"	Copper	
2879 Fort Mojave Dr	4/19/2005	5/16/2009	1"	Copper	
2879 La Paloma Dr	12/9/2002	5/17/2009	1"	Copper	
2750 Desert Stars Ln	12/9/2002	5/18/2009	1"	Copper	
2813 Esmeralda Dr	4/19/2005	5/19/2009	1"	Copper	
2816 Steamboat Dr	4/19/2005	5/30/2009	1"	Copper	
2714 Desert Stars Ln	12/9/2002	6/5/2009	1"	Copper	
2861 Esmeralda Dr	4/19/2005	6/8/2009	1"	Copper	
2855 La Paloma Dr	12/9/2002	6/21/2009	1"	Copper	
2825 Fort Mojave Dr	4/19/2005	6/23/2009	1"	Copper	
2913 Esmeralda Dr	4/19/2005	6/23/2009	1"	Copper	
2784 Steamboat Dr	4/19/2005	6/27/2009	1"	Copper	
2904 Desert Vista Dr	6/2/1996	6/29/2009	1"	Copper	
2755 Singing Breeze Ln	12/9/2002	7/2/2009	1"	Copper	
2806 Fort Mojave Dr	4/19/2005	7/7/2009	1"	Copper	
2911 Fort Mojave Dr	4/19/2005	7/7/2009	1"	Copper	
1133 Crystal Point Cir	6/2/1996	7/15/2009	1"	Copper	
2816 Esmeralda Dr	4/19/2005	7/15/2009	1'	Copper	
1035 Legacy Dr	7/1/1995	7/21/2009	1"	Copper	
2808 La Paloma Dr	12/9/2002	7/21/2009	1"	Copper	
2821 Esmeralda Dr	4/19/2005	7/23/2009	1"	Copper	
2824 Esmeralda Dr	4/19/2005	7/23/2009	1"	Copper	
2841 Steamboat Dr	4/19/2005	8/1/2009	1"	Copper	
2810 Desert Stars Ln	12/9/2002	8/4/2009	1"	Copper	
2819 Ventana Dr	12/9/2002	8/10/2009	1"	Copper	
2839 Sidewheel Dr	4/19/2005	8/10/2009	1"	Copper	
1099 Desert Nights Ln	2/3/2004	8/11/2009	1"	Copper	
2826 Quail Song Ln	12/9/2002	8/12/2009	1"	Copper	
2837 Fort Mojave Dr	4/19/2005	8/14/2009	1"	Copper	
2719 La Paloma Dr	12/9/2002	8/27/2009	1"	Copper	
2885 Steamboat Dr	4/19/2005	8/27/2009	1"	Copper	
2961 Esmeralda Dr	4/19/2005	9/13/2009	1"	Copper	
1096 Desert Nights Ln	2/3/2004	9/16/2009	1"	Copper	
2832 La Paloma Dr	12/9/2002	9/16/2009	1"	Copper	
984 Desert Nights Ln	7/1/1995	9/17/2009	1"	Copper	
2856 La Paloma Dr	12/9/2002	9/21/2009	1"	Copper	
2713 Desert Flower Dr	5/27/1996	10/10/2009	1"	Copper	
2943 La Paloma Dr	7/1/1995	10/14/2009	1"	Copper	
2893 Esmeralda Dr	4/19/2005	10/27/2009	1"	Copper	
1233 Iverness CT	4/19/2005	10/31/2009	1"	Copper	
2864 Ventana Dr	12/9/2002	11/6/2009	1"	Copper	
1236 Inverness Ct		11/6/2009	1"	Copper	
2878 Fort Mojave Dr	4/19/2005	11/10/2009	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2812 Fort Silver Dr	4/19/2005	11/20/2009	1"	Copper	
2851 Sidewheel Dr	4/19/2005	11/20/2009	1"	Copper	
2959 Desert Brook Ln	2/10/1997	12/1/2009	1"	Copper	
2883 Fort Silver Dr	4/19/2005	12/6/2009	1"	Copper	
2830 Fort Mojave Dr	4/19/2005	12/10/2009	1"	Copper	
2767 Singing Breeze Ln	12/9/2002	12/17/2009	1"	Copper	
2889 Steamboat Dr	4/19/2005	12/17/2009	1"	Copper	
2868 Esmeralda Dr	4/19/2005	12/21/2009	1"	Copper	
2830 Fort Silver Dr	4/19/2005	12/28/2009	1"	Copper	
2743 Sidewheel Dr	4/19/2005	1/5/2010	1"	Copper	
2985 Esmeralda Dr	4/19/2005	1/6/2010	1"	Copper	
2846 Sidewheel Dr	4/19/2005	1/13/2010	1"	Copper	
2750 Sidewheel Dr	4/19/2005	1/25/2010	1"	Copper	
2992 Esmeralda Dr	4/19/2005	1/25/2010	1"	Copper	
2653 Bella Sera Dr	2/3/2004	1/27/2010	1"	Copper	
2829 Esmeralda Dr	4/19/2005	1/28/2010	1"	Copper	
2726 Sidewheel Dr	4/19/2005	1/29/2010	1"	Copper	
2860 Esmeralda Dr	4/19/2005	2/1/2010	1"	Copper	
2822 Ventana Dr	12/9/2002	2/17/2010	1"	Copper	
1484 Aztec Cv	4/19/2005	2/21/2010	1"	Copper	
1045 Heritage Dr	7/1/1995	2/23/2010	1"	Copper	
2768 La Paloma Dr	12/9/2002	3/1/2010	1"	Copper	
2819 Desert Song Dr	12/9/2002	3/2/2010	1"	Copper	
1072 Desert Nights Ln	2/3/2004	3/2/2010	1"	Copper	
2673 Bella Casa Ln	2/3/2004	3/2/2010	1"	Copper	
Fort Mohave		3/6/2010	1"	Copper	
1135 Via San Lorenzo	11/8/2004	3/8/2010	1"	Copper	
952 Desert Nights Ln	7/1/1995	3/10/2010	1"	Copper	
2702 Desert Stars Ln	12/9/2002	3/14/2010	1"	Copper	
2936 Steamboat Dr	4/19/2005	3/17/2010	1"	Copper	
2744 La Paloma Dr	12/9/2002	3/18/2010	1"	Copper	
2863 Sidewheel Dr	4/19/2005	3/18/2010	1"	Copper	
2678 Desert Stars Ln	12/9/2002	4/3/2010	1"	Copper	
2690 Promontory Dr	4/15/2004	4/9/2010	1"	Copper	
1017 Bella Luna Dr	2/3/2004	4/13/2010	1"	Copper	
2870 Ventana Dr	12/9/2002	4/14/2010	1"	Copper	
2938 Los Pueblos Dr	7/1/1995	4/19/2010	1"	Copper	
2845 Esmeralda Dr	4/19/2005	4/24/2010	1"	Copper	
2824 Steamboat Dr	4/19/2005	4/26/2010	1"	Copper	
2861 Fort Mojave Dr	4/19/2005	4/29/2010	1"	Copper	
2836 Esmeralda Dr	4/19/2005	5/1/2010	1"	Copper	
2832 Steamboat Dr	4/19/2005	5/6/2010	1"	Copper	
2790 Fort Silver Dr	4/19/2005	5/12/2010	1"	Copper	
2874 Via San Marino	11/8/2004	5/12/2010	1"	Copper	
1013 Bella Luna Dr	2/3/2004	5/12/2010	1"	Copper	
2895 Fort Silver Dr	4/19/2005	5/17/2010	1"	Copper	
1073 Bella Casa Ln	2/3/2004	5/18/2010	1"	Copper	
2962 Fort Silver Dr	4/19/2005	5/25/2010	1"	Copper	
1057 Bella Luna Dr	2/3/2004	5/25/2010	1"	Copper	
2848 Fort Silver Dr	4/19/2005	5/26/2010	1"	Copper	
2844 Esmeralda Dr	4/19/2005	5/28/2010	1"	Copper	
2896 Desert Heights Dr	6/2/1996	5/28/2010	1"	Copper	
2864 La Paloma Dr	12/9/2002	5/31/2010	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2701 Highview Dr	4/15/2004	6/3/2010	1"	Copper	
1095 Desert Nights Ln	2/3/2004	6/3/2010	1"	Copper	
2968 Esmeralda Dr	4/19/2005	6/5/2010	1"	Copper	
2836 Fort Silver Dr	4/19/2005	6/9/2010	1"	Copper	
2807 La Paloma Dr	12/9/2002	6/19/2010	1"	Copper	
1104 Desert Nights Ln	2/3/2004	6/22/2010	1"	Copper	
2937 Deserto Verde	9/25/1997	6/24/2010	1"	Copper	
1101 Desert Nights Ln	2/3/2004	6/25/2010	1"	Copper	
2943 Deserto Verde	9/25/1997	6/26/2010	1"	Copper	
2884 Esmeralda Dr	4/19/2005	6/28/2010	1"	Copper	
2881 Esmeralda Dr	4/19/2005	6/28/2010	1"	Copper	
2720 Desert Stars Ln	12/9/2002	6/28/2010	1"	Copper	
2790 Steamboat Dr	4/19/2005	6/29/2010	1"	Copper	
2889 Desert Trail Dr	6/2/1996	6/29/2010	1"	Copper	
1084 Bella Luna Dr	2/3/2004	7/7/2010	1"	Copper	
2926 Fort Mojave Dr	4/19/2005	7/7/2010	1"	Copper	
2932 Esmeralda Dr	4/19/2005	7/8/2010	1"	Copper	
1113 Bella Luna Dr	2/3/2004	7/9/2010	1"	Copper	
1011 Bella Luna Dr	2/3/2004	7/9/2010	1"	Copper	
2486 Sundown Cir	9/25/1997	7/12/2010	1"	Copper	
1107 Bella Luna Dr	2/3/2004	7/16/2010	1"	Copper	
2962 Los Pueblos Dr	7/1/1995	7/17/2010	1"	Copper	
2813 Fort Mojave Dr	4/19/2005	7/21/2010	1"	Copper	
2875 Steamboat Dr	4/19/2005	7/24/2010	1"	Copper	
2710 Sidewheel Dr	4/19/2005	7/24/2010	1"	Copper	
2782 Sidewheel Dr	4/19/2005	7/27/2010	1"	Copper	
2842 Fort Mojave Dr	4/19/2005	7/28/2010	1"	Copper	
2672 Desert Stars Ln	12/9/2002	7/31/2010	1"	Copper	
2942 La Paloma Dr	7/1/1995	8/3/2010	1"	Copper	
1487 Aztec Cv	4/19/2005	8/5/2010	1"	Copper	
1033 Bella Luna Dr	2/3/2004	8/10/2010	1"	Copper	
2852 Esmeralda Dr	4/19/2005	8/24/2010	1"	Copper	
2658 La Costa Dr	2/3/2004	8/28/2010	1"	Copper	
2828 Enclave Dr	7/1/1995	9/1/2010	1"	Copper	
2749 Desert Stars Ln	12/9/2002	9/4/2010	1"	Copper	
1029 Desert Nights Ln	2/3/2004	9/4/2010	1"	Copper	
2928 Esmeralda Dr	4/19/2005	9/5/2010	1"	Copper	
1378 Pioneer Trl	4/19/2005	9/7/2010	1"	Copper	
1144 Bella Luna Dr	2/3/2004	9/9/2010	1"	Copper	
1141 Bella Luna Dr	2/3/2004	9/10/2010	1"	Copper	
1040 Desert Nights Ln	2/3/2004	9/17/2010	1"	Copper	
1229 Cog hill Ct	4/19/2005	9/22/2010	1"	Copper	
2960 Desert Stars Ln		9/24/2010	1"	Copper	
2652 Bella Sera Dr	2/3/2004	9/25/2010	1"	Copper	
2893 Esmeralda Dr	4/19/2005	9/28/2010	1"	Copper	
2801 Fort Mojave Dr	4/19/2005	10/8/2010	1"	Copper	
2701 Desert Nights Ln		10/9/2010	1"	Copper	
1024 Desert Nights Ln	2/3/2004	10/9/2010	1"	Copper	
2900 Desert Vista Dr	6/2/1996	10/12/2010	1"	Copper	
2806 Fort Silver Dr	4/19/2005	10/16/2010	1"	Copper	
2881 Tuscany Wy	11/8/2004	10/19/2010	1"	Copper	
2880 La Paloma Dr	12/9/2002	10/22/2010	1"	Copper	
2939 Steamboat Dr	4/19/2005	10/26/2010	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2855 Fort Silver Dr	4/19/2005	10/30/2010	1"	Copper	
1029 Bella Luna Dr	2/3/2004	11/4/2010	1"	Copper	
2732 Desert Stars Ln	12/9/2002	11/6/2010	1"	Copper	
2823 Enclave Dr	7/1/1995	11/8/2010	1"	Copper	
2827 Enclave Dr	7/1/1995	11/9/2010	1"	Copper	
1037 Desert Nights Ln	2/3/2004	11/23/2010	1"	Copper	
2860 Fort Mojave Dr	4/19/2005	11/28/2010	1"	Copper	
1027 Legacy Dr	7/1/1995	12/3/2010	1"	Copper	
2769 Esmeralda Dr	4/19/2005	12/13/2010	1"	Copper	
2803 Singing Breeze Ln	12/9/2002	12/17/2010	1"	Copper	
2875 Ventana Dr	12/9/2002	1/4/2011	1"	Copper	
1492 Aztec Cv	4/19/2005	1/13/2011	1"	Copper	
2923 Sidewheel Dr	4/19/2005	1/15/2011	1"	Copper	
1076 Desert Nights Ln	2/3/2004	1/16/2011	1"	Copper	
2921 Desert Nights Ln		1/18/2011	1"	Copper	
2848 Ladera Dr	9/25/1997	1/20/2011	1"	Copper	
2869 Esmeralda Dr	4/19/2005	1/31/2011	1"	Copper	
1133 Bella Luna Dr	2/3/2004	1/31/2011	1"	Copper	
2766 Esmeralda Dr	4/19/2005	2/5/2011	1"	Copper	
2830 Quail Song Ln	12/9/2002	2/21/2011	1"	Copper	
2751 La Paloma Dr	12/9/2002	2/23/2011	1"	Copper	
2957 La Paloma Dr	7/1/1995	2/23/2011	1"	Copper	
2760 La Paloma Dr	12/9/2002	2/25/2011	1"	Copper	
2795 Sidewheel Dr	4/19/2005	3/7/2011	1"	Copper	
2929 Sidewheel Dr	4/19/2005	3/9/2011	1"	Copper	
1126 Legends Dr	5/27/1996	3/9/2011	1"	Copper	
1087 Desert Nights Ln	2/3/2004	3/10/2011	1"	Copper	
2838 Sidewheel Dr	4/19/2005	3/24/2011	1"	Copper	
2828 Ventana Dr	12/9/2002	3/28/2011	1"	Copper	
2848 Enclave Dr	7/1/1995	4/1/2011	1"	Copper	
2862 Cactus Bloom Dr	6/2/1996	4/3/2011	1"	Copper	
2655 Bella Casa Ln	2/3/2004	4/5/2011	1"	Copper	
2902 Fort Mojave Dr	4/19/2005	4/11/2011	1"	Copper	
2937 Lakeview Dr	6/2/1996	4/14/2011	1"	Copper	
1025 Desert Knights Ln	2/3/2004	4/17/2011	1"	Copper	
1053 Desert Acacia	2/10/1997	4/22/2011	1"	Copper	
2988 Sidewheel Dr	4/19/2005	4/25/2011	1"	Copper	
2793 Steamboat Dr	4/19/2005	4/29/2011	1"	Copper	
2797 Esmeralda Dr	4/19/2005	5/4/2011	1"	Copper	
2755 Fort Mojave Dr	4/19/2005	5/6/2011	1"	Copper	
2960 Fort Mojave Dr	4/19/2005	5/16/2011	1"	Copper	
2807 Fort Silver Dr	4/19/2005	5/19/2011	1"	Copper	
1439 Pioneer Trl	4/19/2005	5/19/2011	1"	Copper	
2920 Fort Mojave Dr	4/19/2005	5/19/2011	1"	Copper	
2799 La Paloma Dr	12/9/2002	5/22/2011	1"	Copper	
2939 Los Pueblos Dr	7/1/1995	5/23/2011	1"	Copper	
2904 Esmeralda Dr	4/19/2005	5/23/2011	1"	Copper	
1017 Heritage Dr	7/1/1995	5/24/2011	1"	Copper	
2843 Sidewheel Dr	4/19/2005	5/27/2011	1"	Copper	
2725 Sidewheel Dr	4/19/2005	5/27/2011	1"	Copper	
1004 Desert Nights Ln	2/3/2004	5/27/2011	1"	Copper	
2823 La Paloma Dr	12/9/2002	5/28/2011	1"	Copper	
Sidewheel		5/31/2011	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2899 Desert Arroyo Ln	9/25/1997	6/4/2011	1"	Copper	
2858 Ventana Dr	12/9/2002	6/5/2011	1"	Copper	
Desert Trl IRRIG Park		6/14/2011	2"	Copper	
1378 Pioneer Trl	4/19/2005	6/18/2011	1"	Copper	
2711 Fort Mojave Dr	4/19/2005	6/22/2011	1"	Copper	
2725 Promontory Dr	4/15/2004	6/30/2011	1"	Copper	
2794 Fort Silver Dr	4/19/2005	7/2/2011	1"	Copper	
1033 Heritage Dr	7/1/1995	7/12/2011	1"	Copper	
1009 Heritage Dr	7/1/1995	7/12/2011	1'	Copper	
1045 Bella Luna Dr	2/3/2004	7/22/2011	1"	Copper	
2946 Los Pueblos Dr	7/1/1995	7/25/2011	1"	Copper	
1028 Desert Nights Ln	2/3/2004	7/28/2011	1"	Copper	
2911 Los Pueblos Dr	7/1/1995	7/28/2011	1"	Copper	
1056 Desert Nights Ln	2/3/2004	7/28/2011	1"	Copper	
1125 Bella Luna Dr	2/3/2004	7/29/2011	1"	Copper	
2668 Bella Sera Dr	2/3/2004	7/29/2011	1"	Copper	
2678 La Costa Dr	2/3/2004	7/29/2011	1"	Copper	
2670 La Costa Dr	2/3/2004	7/30/2011	1"	Copper	
2655 La Costa Dr	2/3/2004	7/30/2011	1"	Copper	
1060 Legends Dr	5/27/1996	7/30/2011	1"	Copper	
1116 Desert Knights Ln	2/3/2004	7/31/2011	1"	Copper	
2711 La Paloma Dr	12/9/2002	8/4/2011	1"	Copper	
2891 Fort Mojave Dr	4/19/2005	8/5/2011	1"	Copper	
2814 Quail Song Ln	12/9/2002	8/5/2011	1"	Copper	
2996 Desert Brook Ln	2/10/1997	8/5/2011	1"	Copper	
1065 Bella Luna Dr	2/3/2004	8/8/2011	1"	Copper	
2848 Desert Song Dr	12/9/2002	8/9/2011	1"	Copper	
1057 Desert Acacia	2/10/1997	8/10/2011	1"	Copper	
2972 La Paloma Dr	7/1/1995	8/10/2011	1"	Copper	
2976 La Paloma Dr	7/1/1995	8/10/2011	1"	Copper	
2743 La Paloma Dr	12/9/2002	8/12/2011	1"	Copper	
2984 La Paloma Dr	7/1/1995	8/12/2011	1"	Copper	
2775 Sidewheel Dr	4/19/2005	8/12/2011	1"	Copper	
1051 Desert Acacia	2/10/1997	8/12/2011	1"	Copper	
2855 Steamboat Dr	4/19/2005	8/15/2011	1"	Copper	
2807 Sidewheel Dr	4/19/2005	8/15/2011	1"	Copper	
2758 Sidewheel Dr	4/19/2005	8/16/2011	1"	Copper	
2987 Camino Encanto	9/25/1997	8/22/2011	1"	Copper	
2998 Tierra Vida	2/10/1997	8/22/2011	1"	Copper	
2770 Fort Mojave Dr	4/19/2005	8/22/2011	1"	Copper	
1060 Desert View	9/25/1997	8/24/2011	1"	Copper	
2853 Deseert Arroyo	9/25/1997	8/26/2011	1"	Copper	
2883 Ladera Dr	9/25/1997	8/26/2011	1"	Copper	
2842 Ladera Dr	9/25/1997	8/26/2011	1"	Copper	
2795 Desert Foothills Blvd	5/27/1996	8/26/2011	2"	Copper	
2871 La Paloma Dr	12/9/2002	8/29/2011	1"	Copper	
2821 Quail Song Ln	12/9/2002	8/29/2011	1"	Copper	
2872 Fort Silver Dr	4/19/2005	8/31/2011	1"	Copper	
2816 Desert Song Dr	12/9/2002	9/2/2011	1"	Copper	
2824 Desert Song Dr	12/9/2002	9/2/2011	1"	Copper	
2767 Desert Stars Ln	12/9/2002	9/6/2011	1"	Copper	
2861 Cactus Bloom Dr	6/2/1996	9/12/2011	1"	Copper	
2787 Desert Trail Dr	5/27/1996	9/27/2011	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2719 Desert Stars Ln	12/9/2002	9/28/2011	1"	Copper	
2895 Desert Trail Dr	6/2/1996	9/28/2011	1"	Copper	
2920 Esmeralda Dr	4/19/2005	9/29/2011	1"	Copper	
Bella Luna IRRIG		9/29/2011	2"	Copper	
2829 Ventana Dr	12/9/2002	10/3/2011	1"	Copper	
2794 Sidewheel Dr	4/19/2005	10/5/2011	1"	Copper	
946 Desert Nights Ln	7/1/1995	10/9/2011	1"	Copper	
2993 PaddleWheel Cv		10/13/2011	1"	Copper	
2909 La Paloma Dr	7/1/1995	10/20/2011	1"	Copper	
1375 Pioneer Trl	4/19/2005	10/25/2011	3/4"	Copper	
2863 Ventana Dr	12/9/2002	10/28/2011	1"	Copper	
960 Desert Nights Ln	7/1/1995	11/1/2011	1"	Copper	
2839 Ventana Dr	12/9/2002	11/1/2011	1"	Copper	
1122 Bella Luna Dr	2/3/2004	11/1/2011	1"	Copper	
1049 Bella Luna Dr	2/3/2004	11/1/2011	1"	Copper	
2650 La Costa Dr	2/3/2004	11/1/2011	1"	Copper	
2667 La Costa Dr	2/3/2004	11/1/2011	1"	Copper	
2651 La Costa Dr	2/3/2004	11/1/2011	1"	Copper	
1001 Heritage Dr	7/1/1995	11/1/2011	1"	Copper	
1025 Heritage Dr	7/1/1995	11/1/2011	1"	Copper	
1024 Heritage Dr	7/1/1995	11/1/2011	1"	Copper	
1022 Heritage Dr	7/1/1995	11/1/2011	1"	Copper	
1030 Heritage Dr	7/1/1995	11/1/2011	1"	Copper	
1050 Heritage Dr	7/1/1995	11/1/2011	1"	Copper	
981 Desert Nights Ln	7/1/1995	11/1/2011	1"	Copper	
980 Desert Nights Ln	7/1/1995	11/1/2011	1"	Copper	
996 Desert Nights Ln	7/1/1995	11/1/2011	1"	Copper	
989 Desert Nights Ln	7/1/1995	11/1/2011	1"	Copper	
973 Desert Nights Ln	7/1/1995	11/1/2011	1"	Copper	
1060 Desert Nights Ln	2/3/2004	11/1/2011	1"	Copper	
2679 Desert Stars Ln	12/9/2002	11/3/2011	1"	Copper	
2891 Steamboat Dr	4/19/2005	11/15/2011	1"	Copper	
1098 Canyon Cv	2/10/1997	11/22/2011	1"	Copper	
2779 Sidewheel Dr	4/19/2005	11/28/2011	1"	Copper	
1101 Bella Luna Dr	2/3/2004	12/1/2011	1"	Copper	
1130 Bella Luna Dr	2/3/2004	12/1/2011	1"	Copper	
1093 Bella Luna Dr	2/3/2004	12/1/2011	1"	Copper	
1088 Desert Nights Ln	2/3/2004	12/1/2011	1"	Copper	
2658 Bella Sera Dr	2/3/2004	12/1/2011	1"	Copper	
2647 Bella Sera Dr	2/3/2004	12/1/2011	1"	Copper	
2885 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2881 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2892 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2884 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2874 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2864 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2861 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
2853 Tuscany Wy	11/8/2004	12/1/2011	1"	Copper	
1130 Via San Larenzo	11/8/2004	12/1/2011	1"	Copper	
1142 Via San Larenzo	11/8/2004	12/1/2011	1"	Copper	
1149 Via San Larenzo	11/8/2004	12/1/2011	1"	Copper	
1141 Via San Larenzo	11/8/2004	12/1/2011	1"	Copper	
1125 Via San Larenzo	11/8/2004	12/1/2011	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2927 La Paloma Dr	7/1/1995	12/13/2011	1"	Copper	
2930 Los Pueblos Dr	7/1/1995	12/13/2011		Copper	
2908 Esmeralda Dr	4/19/2005	12/14/2011	1"	Copper	
2793 Esmeralda Dr	4/19/2005	12/14/2011	1"	Copper	
2835 Enclave Dr	7/1/1995	12/15/2011	1"	Copper	
2843 Enclave Dr	7/1/1995	12/15/2011	1"	Copper	
2851 Enclave Dr	7/1/1995	12/15/2011	1"	Copper	
2859 Enclave Dr	7/1/1995	12/15/2011	1"	Copper	
2875 Enclave Dr	7/1/1995	12/15/2011	1"	Copper	
2880 Enclave Dr	7/1/1995	12/16/2011	1"	Copper	
2876 Enclave Dr	7/1/1995	12/16/2011	1"	Copper	
2868 Enclave Dr	7/1/1995	12/16/2011	1"	Copper	
2954 Los Pueblos Dr	7/1/1995	12/19/2011	1"	Copper	
2864 Enclave Dr	7/1/1995	12/19/2011	1"	Copper	
2856 Enclave Dr	7/1/1995	12/19/2011	1"	Copper	
2840 Enclave Dr	7/1/1995	12/19/2011	1"	Copper	
1110 Bella Luna Dr	2/3/2004	12/21/2011	1"	Copper	
1094 Bella Luna Dr	2/3/2004	12/21/2011	1"	Copper	
1102 Bella Luna Dr	2/3/2004	12/21/2011	1"	Copper	
2873 Via San Marino	11/8/2004	12/21/2011	1"	Copper	
2861 Via San Marino	11/8/2004	12/21/2011	1"	Copper	
2851 Via San Marino	11/8/2004	12/21/2011	1"	Copper	
2788 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2796 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2804 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2812 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2773 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2781 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2805 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2774 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2853 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
2908 Esmeralda Dr	4/19/2005	1/1/2012	1"	Copper	
1495 Aztec Cv	4/19/2005	1/13/2012	1"	Copper	
2843 Fort Silver Dr	4/19/2005	1/16/2012	1"	Copper	
2867 Fort Silver Dr	4/19/2005	1/16/2012	1"	Copper	
2907 Fort Silver Dr	4/19/2005	1/16/2012	1"	Copper	
2915 Fort Silver Dr	4/19/2005	1/16/2012	1"	Copper	
2938 Fort Silver Dr	4/19/2005	1/16/2012	1"	Copper	
2944 Fort Silver Dr	4/19/2005	1/16/2012	1"	Copper	
2923 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2914 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2896 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2884 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2860 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2848 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2825 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2801 Fort Silver Dr	4/19/2005	1/24/2012	1"	Copper	
2795 Fort Mojave Dr	4/19/2005	1/24/2012	1"	Copper	
2923 Fort Mojave Dr	4/19/2005	1/24/2012	1"	Copper	
2935 Fort Mojave Dr	4/19/2005	1/24/2012	1"	Copper	
2947 Fort Mojave Dr	4/19/2005	1/24/2012	1"	Copper	
2810 Sidewheel Dr	4/19/2005	1/26/2012	1"	Copper	
2723 Fort Mojave Dr	4/19/2005	1/31/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2739 Fort Mojave Dr	4/19/2005	1/31/2012	1"	Copper	
2779 Fort Mojave Dr	4/19/2005	1/31/2012	1"	Copper	
2866 Fort Mojave Dr	4/19/2005	1/31/2012	1"	Copper	
2890 Fort Mojave Dr	4/19/2005	1/31/2012	1"	Copper	
2803 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
2811 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
2810 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
2819 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
2755 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
2885 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
2911 Sidewheel Dr	4/19/2005	2/27/2012	1"	Copper	
1217 Cog hill Ct	4/19/2005	2/27/2012	1"	Copper	
1218 Cog hill Ct	4/19/2005	2/27/2012	1"	Copper	
1221 Inverness Ct	4/19/2005	2/27/2012	1"	Copper	
2921 Desert trail Dr	6/2/1996	2/29/2012	1"	Copper	
2904 Lakeview Dr	6/2/1996	3/1/2012	1"	Copper	
2792 Steamboat Dr	4/19/2005	3/12/2012	1"	Copper	
2912 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
2920 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
2958 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
2970 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
2976 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
2734 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
2904 Sidewheel Dr	4/19/2005	3/13/2012	1"	Copper	
1214 Inverness Ct	4/19/2005	3/13/2012	1"	Copper	
1224 Cog hill Ct	4/19/2005	3/13/2012	1"	Copper	
2800 Steamboat Dr	4/19/2005	3/13/2012	1"	Copper	
2804 Steamboat Dr	4/19/2005	3/14/2012	1"	Copper	
2812 Steamboat Dr	4/19/2005	3/15/2012	1"	Copper	
2840 Steamboat Dr	4/19/2005	3/19/2012	1"	Copper	
2848 Steamboat Dr	4/19/2005	3/20/2012	1"	Copper	
2860 Steamboat Dr	4/19/2005	3/21/2012	1"	Copper	
2867 Steamboat Dr	4/19/2005	3/23/2012	1"	Copper	
2903 Steamboat Dr	4/19/2005	3/26/2012	1"	Copper	
2915 Steamboat Dr	4/19/2005	3/27/2012	1"	Copper	
2914 Steamboat Dr	4/19/2005	3/28/2012	1"	Copper	
2842 Cactus Bloom Dr	6/2/1996	4/12/2012	1"	Copper	
2840 Ladera Dr	9/25/1997	4/12/2012	1"	Copper	
3005 Paddlewheel Cv		4/13/2012	2"	Copper	
3005 Paddlewheel Cv		4/14/2012	1"	Copper	
2998 Paddlewheel Cv		4/15/2012	1"	Copper	
2986 Paddlewheel Cv		4/17/2012	1"	Copper	
2962 Paddlewheel Cv		4/18/2012	1"	Copper	
2885 Esmeralda Dr	4/19/2005	4/24/2012	1"	Copper	
2989 Ladera Dr	2/10/1997	4/30/2012	1"	Copper	
1362 Pioneer Trl	4/19/2005	5/1/2012	1"	Copper	
2892 Desert Trail Dr	6/2/1996	5/2/2012	1"	Copper	
1359 Pioneer Trl	4/19/2005	5/2/2012	1"	Copper	
1391 Pioneer Trl	4/19/2005	5/3/2012	1"	Copper	
1399 Pioneer Trl	4/19/2005	5/4/2012	1"	Copper	
1447 Pioneer Trl	4/19/2005	5/7/2012	1"	Copper	
2683 Highview Dr	4/15/2004	5/9/2012	1"	Copper	
1415 Pioneer Trl	4/19/2005	5/9/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
1414 Pioneer Trl	4/19/2005	5/11/2012	1"	Copper	
1423 Pioneer Trl	4/19/2005	5/12/2012	1"	Copper	
Sidewheel/ Riverport	4/19/2005	5/21/2012	1"	Copper	
Riverport/Fort Mohave	4/19/2005	5/29/2012	1"	Copper	
2743 Highview Dr	4/15/2004	6/18/2012	1"	Copper	
2731 Highview Dr	4/15/2004	6/18/2012	1"	Copper	
2719 Highview Dr	4/15/2004	6/19/2012	1"	Copper	
2695 Highview Dr	4/15/2004	6/19/2012	1"	Copper	
2690 Promontory Dr	4/15/2004	6/19/2012	1"	Copper	
2702 Promontory Dr	4/15/2004	6/19/2012	1"	Copper	
2701 Promontory Dr	4/15/2004	6/20/2012	1"	Copper	
2714 Promontory Dr	4/15/2004	6/20/2012	1"	Copper	
2985 Calle De Oro	2/10/1997	6/21/2012	1"	Copper	
2750 Promontory Dr	4/15/2004	6/21/2012	1"	Copper	
2738 Promontory Dr	4/15/2004	6/21/2012	1"	Copper	
2726 Promontory Dr	4/15/2004	6/21/2012	1"	Copper	
2922 Los Pueblos Dr	7/1/1995	6/26/2012	1"	Copper	
2893 Desert Heights Dr	6/2/1996	6/27/2012	1"	Copper	
2885 Desert Arroyo Ln	9/25/1997	7/14/2012	1"	Copper	
1071 Legends Dr	5/27/1996	7/16/2012	1"	Copper	
1067 Legends Dr	5/27/1996	7/16/2012	1"	Copper	
1089 Legends Dr	5/27/1996	7/17/2012	1"	Copper	
1085 Legends Dr	5/27/1996	7/17/2012	1"	Copper	
1101 Legends Dr	5/27/1996	7/17/2012	1"	Copper	
1105 Legends Dr	5/27/1996	7/18/2012	1"	Copper	
1117 Legends Dr	5/27/1996	7/18/2012	1"	Copper	
1114 Legends Dr	5/27/1996	7/18/2012	1"	Copper	
1122 Legends Dr	5/27/1996	7/18/2012	1"	Copper	
1121 Legends Dr	5/27/1996	7/19/2012	1"	Copper	
1129 Legends Dr	5/27/1996	7/19/2012	1"	Copper	
2675 Desert Flower Dr	5/27/1996	7/23/2012	1"	Copper	
2680 Desert Flower Dr	5/27/1996	7/23/2012	1"	Copper	
2685 Desert Flower Dr	5/27/1996	7/23/2012	1"	Copper	
2692 Desert Flower Dr	5/27/1996	7/23/2012	1"	Copper	
2696 Desert Flower Dr	5/27/1996	7/24/2012	1"	Copper	
2705 Desert Flower Dr	5/27/1996	7/24/2012	1"	Copper	
2721 Desert Flower Dr	5/27/1996	7/25/2012	1"	Copper	
2923 Sidewheel Dr	4/19/2005	7/26/2012	2"		
2902 Desert Vista Dr	6/2/1996	8/9/2012	3/4"	Copper	
2712 Desert Flower Dr	5/27/1996	8/10/2012	1"	Copper	
2721 Desert Flower Dr	5/27/1996	8/13/2012	2"	Copper	blow off
2721 Desert Flower Dr	5/27/1996	8/13/2012	2"	Copper	Irr
2937 La Paloma Dr	7/1/1995	8/15/2012	1"	Copper	
2953 La Paloma Dr	7/1/1995	8/15/2012	1"	Copper	
2969 La Paloma Dr	7/1/1995	8/15/2012	1"	Copper	
2977 La Paloma Dr	7/1/1995	8/15/2012	1"	Copper	
2676 Desert Flower Dr	5/27/1996	8/16/2012	1"	Copper	
1130 Bella Luna Dr	2/3/2004	8/17/2012	2"	Copper	Blow off
2708 Desert Flower Dr	5/27/1996	8/20/2012	1"	Copper	
2672 Desert Flower Dr	5/27/1996	8/20/2012	1"	Copper	
1137 Legends Dr	5/27/1996	8/20/2012	1"	Copper	
1059 Legends Dr	5/27/1996	8/21/2012	1"	Copper	
1064 Legends Dr	5/27/1996	8/21/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
1081 Legends Dr	5/27/1996	8/21/2012	2"	Copper	
1073 Desert Marigold Cir	5/27/1996	8/22/2012	1"	Copper	
1081 Desert Marigold Cir	5/27/1996	8/22/2012	1"	Copper	
1089 Desert Marigold Cir	5/27/1996	8/22/2012	1"	Copper	
1097 Desert Marigold Cir	5/27/1996	8/22/2012	1"	Copper	
1105 Desert Marigold Cir	5/27/1996	8/22/2012	1"	Copper	
1109 Desert Marigold Cir	5/27/1996	8/23/2012	1"	Copper	
1113 Desert Marigold Cir	5/27/1996	8/23/2012	1"	Copper	
1121 Desert Marigold Cir	5/27/1996	8/23/2012	1"	Copper	
1129 Desert Marigold Cir	5/27/1996	8/23/2012	1"	Copper	
1129 Desert Marigold Cir	5/27/1996	8/23/2012	2"	Copper	Blow off
1100 Desert Marigold Cir	5/27/1996	8/24/2012	1"	Copper	
2919 Los Pueblos Dr	7/1/1995	9/6/2012	1"	Copper	
2945 Los Pueblos Dr	7/1/1995	9/6/2012	1"	Copper	
2953 Los Pueblos Dr	7/1/1995	9/6/2012	1"	Copper	
2969 Los Pueblos Dr	7/1/1995	9/6/2012	1"	Copper	
2901 La Paloma Dr	7/1/1995	9/6/2012	1"	Copper	
2913 La Paloma Dr	7/1/1995	9/6/2012	1"	Copper	
2921 La Paloma Dr	7/1/1995	9/6/2012	1"	Copper	
2929 La Paloma Dr	7/1/1995	9/6/2012	1"	Copper	
1065 Desert Marigold Cir	5/27/1996	9/7/2012	1"	Copper	
2954 La Paloma Dr	7/1/1995	9/10/2012	1"	Copper	
2934 La Paloma Dr	7/1/1995	9/10/2012	1"	Copper	
2930 La Paloma Dr	7/1/1995	9/10/2012	1"	Copper	
2918 La Paloma Dr	7/1/1995	9/10/2012	1"	Copper	
2994 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2922 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2928 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2940 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2952 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2964 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2980 Camino Encanto	9/25/1997	9/11/2012	1"	Copper	
2962 La Paloma Dr	7/1/1995	9/11/2012	1"	Copper	
2952 Deserto Verde	9/25/1997	9/18/2012	1"	Copper	
2978 Deserto Verde	9/25/1997	9/18/2012	1"	Copper	
2974 Deserto Verde	9/25/1997	9/18/2012	1"	Copper	
2958 Deserto Verde	9/25/1997	9/18/2012	1"	Copper	
2995 Tierra Vida	2/10/1997	9/18/2012	1"	Copper	
2989 Tierra Vida	2/10/1997	9/18/2012	1"	Copper	
2971 Tierra Vida	2/10/1997	9/18/2012	1"	Copper	
2967 Tierra Vida	2/10/1997	9/18/2012	1"	Copper	
2991 Calle De Oro	2/10/1997	9/20/2012	1"	Copper	
2795 Desert Foothills Blvd	5/27/1996	9/20/2012	2"	Copper	Irr
2973 Desert Brook Ln	2/10/1997	9/23/2012	1"	Copper	
2987 Desert Brook Ln	2/10/1997	9/23/2012	1"	Copper	
2999 Desert Brook Ln	2/10/1997	9/23/2012	1"	Copper	
1084 Desert Cove Dr		9/23/2012	1"	Copper	
1063 Desert Acacia	2/10/1997	9/25/2012	1"	Copper	
1067 Desert Acacia	2/10/1997	9/25/2012	1"	Copper	
1071 Desert Acacia	2/10/1997	9/25/2012	1"	Copper	
1075 Desert Acacia	2/10/1997	9/25/2012	1"	Copper	
2946 Ladera Dr	2/10/1997	9/25/2012	1"	Copper	
2970 Ladera Dr	2/10/1997	9/25/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2986 Ladera Dr	2/10/1997	9/25/2012	1"	Copper	
2926 Ladera Dr	9/25/1997	9/27/2012	1"	Copper	
2922 Ladera Dr	9/25/1997	9/27/2012	1"	Copper	
2908 Ladera Dr	9/25/1997	9/27/2012	1"	Copper	
2892 Ladera Dr	9/25/1997	9/27/2012	1"	Copper	
2876 Ladera Dr	9/25/1997	10/1/2012	1"	Copper	
2870 Desert Arroyo Ln	9/25/1997	10/3/2012	1"	Copper	
2862 Desert Arroyo Ln	9/25/1997	10/3/2012	1"	Copper	
1051 Desert View	9/25/1997	10/3/2012	1"	Copper	
1063 Desert View Dr	9/25/1997	10/3/2012	1"	Copper	
2881 Desert Greens Dr	9/25/1997	10/3/2012	1"	Copper	
2873 Desert Greens Dr	9/25/1997	10/3/2012	1"	Copper	
2865 Desert Greens Dr	9/25/1997	10/3/2012	1"	Copper	
2861 Desert Greens Dr	9/25/1997	10/3/2012	1"	Copper	
3002 Ladera Dr	2/10/1997	10/4/2012	2"	Copper	
3002 Ladera Dr	2/10/1997	10/4/2012	1"	Copper	
2931 Los Pueblos Dr	7/1/1995	10/4/2012	2"	Copper	
2931 Los Pueblos Dr	7/1/1995	10/4/2012	1"	Copper	
2908 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2910 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2916 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2918 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2935 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2944 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2948 Lakeview Dr	6/2/1996	10/8/2012	1"	Copper	
2920 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2918 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2910 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2894 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2890 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2884 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2880 Desert Trail Dr	6/2/1996	10/8/2012	1"	Copper	
2870 Cactus Bloom Dr	6/2/1996	10/9/2012	1"	Copper	
2874 Cactus Bloom Dr	6/2/1996	10/9/2012	1"	Copper	
2905 Desert Heights Dr	6/2/1996	10/9/2012	1"	Copper	
1128 Crystal Point Cir	6/2/1996	10/9/2012	1"	Copper	
1132 Crystal Point Cir	6/2/1996	10/9/2012	1"	Copper	
2884 Cactus Bloom Dr		10/9/2012	1"	Copper	
2899 Cactus Bloom Dr		10/9/2012	1"	Copper	
2901 Desert Vista Dr	6/2/1996	10/10/2012	3/4"	Copper	
2899 Desert Vista Dr	6/2/1996	10/10/2012	3/4"	Copper	
2897 Desert Vista Dr	6/2/1996	10/10/2012	3/4"	Copper	
2895 Desert Vista Dr	6/2/1996	10/10/2012	3/4"	Copper	
2891 Desert Vista Dr	6/2/1996	10/10/2012	3/4"	Copper	
2875 Desert Vista Dr	6/2/1996	10/10/2012	3/4"	Copper	
2836 Cactus Bloom Dr	6/2/1996	10/10/2012	1"	Copper	
2840 Cactus Bloom Dr	6/2/1996	10/10/2012	1"	Copper	
2915 Desert Vista Dr	6/2/1996	10/11/2012	1"	Copper	
2913 Desert Vista Dr	6/2/1996	10/11/2012	1"	Copper	
2903 Desert Vista Dr	6/2/1996	10/11/2012	1"	Copper	
2999 Camino Encanto	9/25/1997	10/15/2012	1"	Copper	
2971 Camino Encanto	9/25/1997	10/15/2012	1"	Copper	
2917 Desert Trail Dr	6/2/1996	10/19/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2915 Camino Encanto	9/25/1997	10/25/2012	1"	Copper	
2921 Camino Encanto	9/25/1997	10/25/2012	1"	Copper	
2939 Camino Encanto	9/25/1997	10/25/2012	1"	Copper	
2945 Camino Encanto	9/25/1997	10/25/2012	1"	Copper	
2963 Camino Encanto	9/25/1997	10/25/2012	1"	Copper	
2994 Deserto Verde	9/25/1997	10/26/2012	1"	Copper	
2990 Deserto Verde	9/25/1997	10/26/2012	1"	Copper	
2997 Deserto Verde	9/25/1997	10/26/2012	1"	Copper	
2973 Deserto Verde	9/25/1997	10/26/2012	1"	Copper	
2967 Deserto Verde	9/25/1997	10/29/2012	1"	Copper	
2994 Deserto Verde	9/25/1997	10/29/2012	1"	Copper	
2937 Deserto Verde	9/25/1997	11/7/2012	1"	Copper	
2931 Deserto Verde	9/25/1997	11/7/2012	1"	Copper	
2985 Deserto Verde	9/25/1997	11/7/2012	1"	Copper	
2909 Camino Encanto	9/25/1997	11/7/2012	1"	Copper	
3000 Camino Encanto	9/25/1997	11/7/2012	1"	Copper	
2980 Desert Brook Ln	2/10/1997	11/7/2012	1"	Copper	
2982 Tierra Vida	2/10/1997	11/8/2012	1"	Copper	
2968 Tierra Vida	2/10/1997	11/8/2012	1"	Copper	
2944 Tierra Vida	2/10/1997	11/8/2012	1"	Copper	
2935 Tierra Vida	2/10/1997	11/8/2012	1"	Copper	
2992 Desert Brook Ln	2/10/1997	11/9/2012	1"	Copper	
2962 Desert Brook Ln	2/10/1997	11/9/2012	1"	Copper	
2994 Lardera	2/10/1997	11/12/2012	1"	Copper	
2983 Ladera Dr	2/10/1997	11/12/2012	1"	Copper	
2967 Ladera Dr	2/10/1997	11/12/2012	1"	Copper	
2951 Ladera Dr	2/10/1997	11/12/2012	1"	Copper	
2938 Desert Acacia	9/25/1997	11/12/2012	1"	Copper	
2878 Desert Greens Dr	9/25/1997	11/13/2012	1"	Copper	
2870 Desert Greens Dr	9/25/1997	11/13/2012	1"	Copper	
2866 Desert Greens Dr	9/25/1997	11/13/2012	1"	Copper	
2860 Ladera Dr	9/25/1997	11/13/2012	1"	Copper	
2895 Ladera Dr	9/25/1997	11/13/2012	1"	Copper	
2901 Ladera Dr	9/25/1997	11/13/2012	1"	Copper	
2994 Calle De Oro	2/10/1997	11/14/2012	2"	Copper	
2994 Calle De Oro	2/10/1997	11/14/2012	1"	Copper	
1052 Desert View	9/25/1997	11/16/2012	1"	Copper	
1056 Desert View	9/25/1997	11/16/2012	1"	Copper	
1066 Desert View	9/25/1997	11/16/2012	1"	Copper	
1068 Desert View	9/25/1997	11/16/2012	1"	Copper	
1074 Desert View	9/25/1997	11/16/2012	1"	Copper	
1076 Desert View	9/25/1997	11/16/2012	1"	Copper	
2991 Deserto Verde	9/25/1997	11/26/2012	1"	Copper	
2848 Cactus Bloom Dr	6/2/1996	11/26/2012	2"	Copper	
2848 Cactus Bloom Dr	6/2/1996	11/26/2012	1"	Copper	
2844 Cactus Bloom Dr	6/2/1996	11/26/2012	1"	Copper	
2847 Cactus Bloom Dr	6/2/1996	11/26/2012	1"	Copper	
2845 Cactus Bloom Dr	6/2/1996	11/26/2012	3/4"	Copper	
2858 Cactus Bloom Dr	6/2/1996	11/27/2012	2"	Copper	
2858 Cactus Bloom Dr	6/2/1996	11/27/2012	1"	Copper	
2856 Cactus Bloom Dr	6/2/1996	11/27/2012	1"	Copper	
2852 Cactus Bloom Dr	6/2/1996	11/27/2012	1"	Copper	
2857 Cactus Bloom Dr	6/2/1996	11/27/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2875 Cactus Bloom Dr	6/2/1996	11/28/2012	1"	Copper	
2871 Cactus Bloom Dr	6/2/1996	11/28/2012	1"	Copper	
2867 Cactus Bloom Dr	6/2/1996	11/28/2012	1"	Copper	
1135 Crystal Point Cir	6/2/1996	11/28/2012	1"	Copper	
1139 Crystal Point Cir	6/2/1996	12/1/2012	1"	Copper	
1141 Crystal Point Cir	6/2/1996	12/1/2012	1"	Copper	
2908 Desert Heights Dr	6/2/1996	12/3/2012	1"	Copper	
2906 Desert Heights Dr	6/2/1996	12/3/2012	1"	Copper	
2902 Desert Heights Dr	6/2/1996	12/3/2012	1"	Copper	
2894 Desert Heights Dr	6/2/1996	12/3/2012	1"	Copper	
2888 Desert Heights Dr	6/2/1996	12/3/2012	1"	Copper	
2896 Lakeview Dr	6/2/1996	12/4/2012	2"	Copper	
1129 Crystal Point Cir	6/2/1996	12/4/2012	2"	Copper	
1129 Crystal Point Cir	6/2/1996	12/4/2012	1"	Copper	
1138 Desert Bloom Cir	6/2/1996	12/5/2012	2"	Copper	
1140 Desert Bloom Cir	6/2/1996	12/5/2012	2"	Copper	
1140 Desert Bloom Cir	6/2/1996	12/5/2012	1"	Copper	
1139 Desert Bloom Cir	6/2/1996	12/5/2012	1"	Copper	
1135 Desert Bloom Cir	6/2/1996	12/5/2012	1"	Copper	
2929 Lakeview Dr	6/2/1996	12/5/2012	1"	Copper	
2919 Lakeview Dr	6/2/1996	12/5/2012	1"	Copper	
2915 Lakeview Dr	6/2/1996	12/5/2012	1"	Copper	
2896 Lakeview Dr	6/2/1996	12/5/2012	1"	Copper	
2940 Lakeview Dr	6/2/1996	12/6/2012	1"	Copper	
2923 Lakeview Dr	6/2/1996	12/7/2012	1"	Copper	
2932 Lakeview Dr	6/2/1996	12/7/2012	1"	Copper	
2938 Lakeview Dr	6/2/1996	12/7/2012	1"	Copper	
2930 Lakeview Dr	6/2/1996	12/7/2012	1"	Copper	
2927 Lakeview Dr	6/2/1996	12/7/2012	2"	Copper	
2927 Lakeview Dr	6/2/1996	12/7/2012	1"	Copper	
2911 Desert Trail Dr	6/2/1996	12/8/2012	1"	Copper	
2907 Desert Trail Dr	6/2/1996	12/8/2012	1"	Copper	
2903 Desert Trail Dr	6/2/1996	12/8/2012	1"	Copper	
2901 Desert Trail Dr	6/2/1996	12/8/2012	1"	Copper	
2893 Desert Trail Dr	6/2/1996	12/8/2012	1"	Copper	
2924 Desert Trail Dr	6/2/1996	12/10/2012	1"	Copper	
2923 Desert Trail Dr	6/2/1996	12/10/2012	1"	Copper	
2929 Desert Trail Dr	6/2/1996	12/10/2012	2"	Copper	
2929 Desert Trail Dr	6/2/1996	12/11/2012	1"	Copper	
2927 Desert Trail Dr	6/2/1996	12/11/2012	1"	Copper	
2895 Palo Brea Cir	6/2/1996	12/12/2012	1"	Copper	
2899 Palo Brea Cir	6/2/1996	12/12/2012	1"	Copper	
2903 Palo Brea Cir	6/2/1996	12/12/2012	1"	Copper	
2908 Palo Brea Cir	6/2/1996	12/12/2012	1"	Copper	
2918 Desert Vista Dr	6/2/1996	12/12/2012	1"	Copper	
2922 Desert Vista Dr	6/2/1996	12/12/2012	1"	Copper	
2882 Desert Vista Dr	6/2/1996	12/13/2012	1"	Copper	
2883 Desert Vista Dr	6/2/1996	12/13/2012	1"	Copper	
2891 Palo Brea Cir	6/2/1996	12/13/2012	2"	Copper	
2891 Palo Brea Cir	6/2/1996	12/13/2012	1"	Copper	
2877 Desert Vista Dr	6/2/1996	12/17/2012	2"	Copper	
2896 Desert Vista Dr	6/2/1996	12/17/2012	1"	Copper	
2914 Desert Vista Dr	6/2/1996	12/17/2012	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
2877 Desert Vista Dr	6/2/1996	12/17/2012	1"	Copper	
2861 Desert Vista Dr	6/2/1996	12/17/2012	1"	Copper	
Desert Foothills and Desert Cany	5/27/1996	12/20/2012	2	Copper	
Desert Foothills and Desert Cany	5/27/1996	12/20/2012	2"	Copper	
2602 Desert Foothills Blvd	5/27/1996	12/20/2012	2"	Brass plug	Maverick
2602 Desert Foothills Blvd	5/27/1996	12/20/2012	2"	Copper	Mav Irr
2601 Desert Foothills Blvd	5/27/1996	12/20/2012	1"	Copper	
Promotory & Desert Vista	5/27/1996	12/20/2012	2"	Brass plug	
Desert Vista/Desert Foot	5/27/1996	1/3/2013	2"	Copper	
Promotory & Desert Vista	5/27/1996	1/5/2013	2"	Copper	
Desert Canyon		1/6/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/14/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/14/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/14/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/14/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/14/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/14/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/15/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/21/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/21/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/21/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/21/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/23/2013	2"	Copper	
2795 Desert Foothills Blvd	5/27/1996	1/23/2013	2"	Copper	
2985 La Paloma Dr	7/1/1995	2/20/2013	2"	Copper	
2917 Desert Vista Dr	6/2/1996	4/20/2013	1"	Copper	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2721 Desert Flower Dr	10/2/2002	6/2/1931	2"	Dris	clamp
Lot 74 Vantana Dr	12/9/2002	2/9/2004	1"	Brass Branch	Replaced SVC Tee/Valves
2884 Desert vista Dr	6/2/1996	2/26/2004	3/4"	Poly (dris)	Clamp
2926 Desert Vista Dr	6/2/1996	2/29/2004	1"	Brass Tee	Service tee came off
2894 Desert Vista Dr	6/2/1996	6/5/2004	3/4"	Poly (dris)	Clamp
2883 Desert Vista Dr	6/2/1996	8/12/2004	3/4"	Poly (dris)	Clamp
2885 Desert Greens Dr	9/25/1997	8/12/2004	1"	Driscope	sectioned with Vanguard
2883 Desert Vista Dr	6/2/1996	8/30/2004	3/4"	Poly driscope	2 Clamps
2930 Desert Vista Dr	6/2/1996	9/17/2004	1"	poly(dris)	sectioned with Vanguard
2917 Desert Vista Dr	6/2/1996	9/20/2004	1"	Driscope	Piece into corp/ With Vanguard
2892 Desert Vista Dr	6/2/1996	11/8/2004	3/4"	Poly (dris)	Clamp
2888 Desert Vista Dr	6/2/1996	11/12/2004	3/4"	Poly	Two clamps
2876 Desert Vista Dr	6/2/1996	12/23/2004	3/4"	poly (dris)	Clamp
Desert Vista	6/2/1996	1/20/2005	2"	Driscope	Clamp
2880 Desert Vista Dr	6/2/1996	3/21/2005	3/4"	Driscope	Clamp
2890 Desert vista Dr	6/2/1996	6/24/2005	3/4"	Driscope	Clamp
2987 Camino Encanto	9/25/1997	11/30/2005	1"	Driscope	Clamp
2930 Desert Vista Dr	6/2/1996	12/16/2005	1"	Driscope	Replaced section of pipe
2941 La Paloma Dr	7/1/1995	2/14/2006	1"	Dris	Clamp
2941 La Paloma Dr	7/1/1995	2/23/2006	1"	Dris	Replaced section to meter stops
2895 Desert Vista Dr	6/2/1996	4/4/2006	3/4"	Dris	Replaced section and new angle valve
1133 Legends Dr	10/2/2002	4/6/2006	1"	Dris	Replaced section to meter stops
2933 La Paloma Dr	7/1/1995	4/7/2006	1"	Dris	Clamp
2892 Desert Vista Dr	6/2/1996	5/14/2006	3/4"	Dris	Clamp
2894 Desert Vista Dr	6/2/1996	6/26/2006	3/4"	Dris	Clamp
2933 La Paloma Dr	7/1/1995	7/20/2006	1"	Dris	Took out bad Bend installed 90 Below svc Branch
2886 Desert Vista Dr	6/2/1996	7/28/2006	3/4"	Dris	Clamp
2930 Desert Vista Dr	6/2/1996	8/5/2006	1"	Dris	Clamp
2888 Desert Vista Dr	6/2/1996	8/26/2006	1"	Dris	Clamp
2972 La Paloma Dr	7/1/1995	9/2/2006	1"	Dris	Replaced section
2894 Desert Vista Dr	6/2/1996	9/27/2006	3/4"	Dris	Replaced section
2892 Desert Vista Dr	6/2/1996	10/31/2006	3/4"	Dris	Replaced section
2958 La Paloma Dr	7/1/1995	11/5/2006	1"	Dris	Clamp
2842 Fort Silver Dr	4/19/2005	12/30/2006	1"	Vanguard	Replaced section
2918 Desert Vista Dr	6/2/1996	1/23/2007	1"	Dris	Replaced section
1084 Canyon Cove	2/10/1997	2/15/2007	1"	Dris	Replaced section to svc branch
2890 Desert Vista Dr	6/2/1996	2/27/2007	3/4"	Vanguard	Clamp
2892 Desert Vista Dr	6/2/1996	3/15/2007	3/4"	Dris	Replaced section
2942 Los Pueblos Dr	7/1/1995	3/16/2007	1"	Dris	Replaced section
2882 Desert Trail Dr	6/2/1996	3/23/2007	1"	Dris	Replaced section
2795 Desert Foothills Blvd	5/27/1996	3/28/2007	2"	Dris	Replaced section
2886 Desert Vista Dr	6/2/1996	4/2/2007	3/4"	Poly	Replaced section
2918 Desert Vista Dr	6/2/1996	4/25/2007	1"	Dris	Replaced section
2886 Desert Vista Dr	6/2/1996	4/25/2007	3/4"	Dris	Replaced section
2704 Desert Flower Dr	10/2/2002	5/17/2007	1"	Dris	Replaced section
2962 La Paloma Dr	7/1/1995	5/21/2007	1"	Dris	Replaced section
2915 Los Pueblos Dr	7/1/1995	5/23/2007	1"	Dris	Replaced section

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2892 Desert Vista Dr	6/2/1996	5/31/2007	1"	Dris	Replaced section
2897 Desert Vista Dr	6/2/1996	6/8/2007	3/4"	Dris	Replaced section
2918 Los Pueblos Dr	7/1/1995	6/8/2007	1"	Dris	Replaced section
2889 La Paloma dr	12/9/2002	6/11/2007	1"	Dris	Replaced section
2986 Camino Encanto	9/25/1997	6/26/2007	1"	Dris	Replaced section
2957 La Paloma Dr	7/1/1995	7/9/2007	1"	Dris	Replaced section
1055 Desert Acacia	5/27/1996	7/26/2007	1"	Dris	
2756 Desert Stars Ln	12/9/2002	8/7/2007	1"	Dris	Replaced section
2820 Esmerelda Dr	4/19/2005	8/12/2007	1"	Dris	Replaced section
2756 Desert Stars Ln	12/9/2002	8/18/2007	1"	Dris	Bad Backfill, replaced to valve
2756 Desert Stars Ln	12/9/2002	8/23/2007	1"	Dris	Replaced section
2985 Deserto Verde dr	9/25/1997	9/7/2007	1"	Dris	Clamp
2971 Camino Encanto	9/25/1997	9/9/2007	1"	Dris	Replaced section
2999 Camino Encanto	9/25/1997	9/9/2007	1"	Dris	Replaced section
2820 Esmerelda Dr	4/19/2005	9/27/2007	1"	Vanguard	
2847 La Polma Dr	12/9/2002	10/6/2007	1"	Dris	
Canyon Walk Appartments		10/24/2007	2"	Dris	
2987 Camino Encanto	9/25/1997	11/13/2007	1"	Dris	
Singing Breeze & Quail Song	12/9/2002	11/17/2007	1"	Dris	
2975 Camino Encanto	9/25/1997	12/5/2007	1"	Dris	
2930 Desert Vista Dr	6/2/1996	12/6/2007	1"	Dris	
2897 Desert Vista Dr	6/2/1996	12/15/2007	3/4"	Dris	Clamp
2880 Desert Vista Dr	6/2/1996	1/1/2008	3/4"	Dris	
2763 Sidewheel Dr	4/19/2005	1/3/2008	1"	Dris	Bad Install
2375 Desert Foothills Blvd		1/28/2008	2"	Dris	Clamp
2787 Sidewheel Dr	4/19/2005	2/4/2008	1"	Dris	Bad install at corp
2756 Desert Stars Ln	12/9/2002	2/17/2008	1"	Dris	Clamp
1068 Desert Nights Ln	2/3/2004	2/21/2008	1"	Dris	Bad Install
2923 Sidewheel Dr	4/19/2005	3/3/2008	1"	Dris	Replaced section
2816 Steamboat Dr	4/19/2005	3/10/2008	1"	Vanguard	
2816 Esmerelda Dr	4/19/2005	3/30/2008	1"	Dris	Replaced section
1056 Desert Nights Ln	2/3/2004	4/9/2008	BV	BV	
2827 Singing Breeze Ln	12/9/2002	4/20/2008	1"	Dris	
2789 Steamboat Dr	4/19/2005	4/24/2008	1"	Vanguard	Replaced section to corp
2839 Sidewheel Dr	4/19/2005	4/30/2008	1"	Vanguard	
2672 Bella Casa Ln	2/3/2004	5/1/2008	1"	Dris	
2911 Los Pueblos Dr	7/1/1995	5/6/2008	1"	poly	
2750 Desert Stars Ln	12/9/2002	5/6/2008	1"	Dris	Clamp
2820 Steamboat Dr	4/19/2005	5/9/2008	1"	Vanguard	
2824 Steamboat Dr	4/19/2005	5/19/2008	1"	Vanguard	
2842 Cactus Bloom Dr	6/2/1996	5/19/2008	1"	Dris	Replaced section
2809 Singing Breeze Ln	12/9/2002	5/21/2008	1"	Dris	Replaced section
2810 Desert Stars Ln	12/9/2002	6/10/2008	1"	Dris	
2815 Singing Breeze Ln	12/9/2002	6/17/2008	1"	Dris	
2835 Desert Foothills Blvd	5/27/1996	6/18/2008	2"	Dris	
2833 Singing Breeze Ln	12/9/2002	6/20/2008	1"	Dris	
2954 Los Pueblos Dr	7/1/1995	6/25/2008	1"	Dris	
1080 Desert Nights Ln	2/3/2004	6/27/2008	1"	Dris	
2830 Fort Mohave Dr	4/19/2005	7/3/2008	1"	Dris	Bad Install
2999 Camino Encanto	9/25/1997	7/5/2008	1"	Dris	Clamp
2803 Singing Breeze Ln	12/9/2002	7/5/2008	1"	Dris	

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2839 Desert Song Dr	12/9/2002	7/7/2008	1"	Dris	
2804 Desert Stars Ln	12/9/2002	7/14/2008	1"	Dris	
2655 Bella Casa Ln	2/3/2004	7/14/2008	1"	Dris	
2930 Desert Vista Dr	6/2/1996	7/14/2008	1"	Dris	
2850 Cactus Bloom Dr	6/2/1996	7/15/2008	2"	Dris	Clamp
2892 Steamboat Dr	4/19/2005	7/21/2008	1"	Vanguard	Bad Install
2779 Singing Breeze Ln	12/9/2002	7/21/2008	1"	Vanguard	
1144 Bella Luna Dr	2/3/2004	7/24/2008	1"	Vanguard	
2809 Singing Breeze Ln	12/9/2002	7/28/2008	1"	Vanguard	Two hose clamps
2799 Sidewheel Dr	4/19/2005	7/28/2008	1"	Vanguard	Hose clamp
2836 Fort Mohave Dr	4/19/2005	8/13/2008	1"	Dris	
2837 Fort Mohave Dr	4/19/2005	8/22/2008	1"	Vanguard	Clamp
2893 Desert Vista Dr	6/2/1996	8/25/2008	3/4"	Dris	
2822 Ventana Dr	12/9/2002	8/28/2008	1"	Dris	
2823 La Paloma Dr	12/9/2002	9/2/2008	1"	Dris	
2915 Desert Trail Dr	6/2/1996	9/3/2008	1"	Dris	Clamp
2836 Fort Mohave Dr	4/19/2005	9/11/2008	1"	Dris	
Canyon Walk Apts #4		9/16/2008	2"	Dris	
2816 Steamboat Dr	4/19/2005	9/22/2008	1"	Vanguard	
2792 Singing Breeze Ln	12/9/2002	9/24/2008	1"	Dris	
2824 Steamboat Dr	4/19/2005	9/27/2008	1"	Vanguard	Clamp
1130 Legend Dr	10/2/2002	10/18/2008	1"	Dris	
2930 La Paloma Dr	7/1/1995	12/15/2008	1"	Dris	
2839 Sidewheel Dr	4/19/2005	12/17/2008	1"	Vanguard	
2821 Singing Breeze Ln	12/9/2002	12/30/2008	1"	Dris	Clamp
2791 La Paloma Dr	12/9/2002	1/2/2009	1'	Vanguard	
2861 Esmerelda Dr	4/19/2005	1/7/2009	1"	Vanguard	Replaced section
2786 Desert Stars Ln	12/9/2002	1/14/2009	1"	Vanguard	Clamp
2785 Singing Breeze Ln	12/9/2002	1/25/2009	1'	Vanguard	Clamp
2685 Desert Flower Dr	10/2/2002	2/6/2009	1"	Dris	Clamp
2914 Los Pueblos Dr	7/1/1995	2/19/2009	1"	Dris	Clamp
1121 Legends Dr	10/2/2002	3/5/2009	1"	Dris	replaced section
2876 Esmerelda Dr	4/19/2005	3/7/2009	1"	Vanguard	Clamp
2889 Desert Trail Dr	6/2/1996	3/8/2009	1"	Dris	Clamp
2917 La Paloma Dr	7/1/1995	3/10/2009	1"	Dris	
2878 Fort Mohave Dr	4/19/2005	3/10/2009	1"	Vanguard	Clamp
972 Desert Nights Ln	7/1/1995	3/11/2009	1"	Vanguard	
2773 Singing Breeze Ln	12/9/2002	3/17/2009	1"	Vanguard	Two Clamps
2884 Fort Mohave Dr	4/19/2005	3/19/2009	1"	Vanguard	Clamp
2833 Singing Breeze Ln	12/9/2002	3/21/2009	1"	Vanguard	Clamp
2907 Fort Mohave Dr	4/19/2005	3/25/2009	1"	Vanguard	Clamp
Desert Foothills & Desert Vista	5/27/1996	3/31/2009	2"	Dris	Clamp
2954 Los Pueblos Dr	7/1/1995	4/14/2009	1"	Dris	
2795 Desert Foothills Blvd	5/27/1996	4/20/2009	2"	Dris	Two Clamps
2787 Sidewheel Dr	4/19/2005	4/21/2009	1"	Vanguard	Replaced 2x 90'
2840 Ladera Dr	9/25/1997	4/23/2009	1"	Dris	Clamp, pipe on rocks
2828 Esmerelda Dr	4/19/2005	5/2/2009	1"	Vanguard	Clamp
2705 Desert Flower Dr	10/2/2002	5/3/2009	1"	Dris	Clamp
2750 Desert Stars Ln	12/9/2002	5/7/2009	1"	Dris	Clamp
1131 Crystal Point Cir	6/2/1996	5/18/2009	1"	Dris	Clamp

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2726 Desert Stars Ln	12/9/2002	5/18/2009	1"	Dris	Replaced section
1133 Crystal Point Cir	6/2/1996	5/18/2009	1"	Dris	
984 Desert Nights Ln	7/1/1995	5/24/2009	1"	Vanguard	
2848 Esmerelda Dr	4/19/2005	6/5/2009	1"	Vanguard	Clamp
2872 Esmerelda Dr	4/19/2005	6/6/2009	1"	Vanguard	Replaced section
2840 Esmerelda Dr	4/19/2005	6/21/2009	1"	Vanguard	
1013 Bella Luna Dr	2/3/2004	6/24/2009	1"	Vanguard	Clamp
2861 Fort Silver Dr	4/19/2005	7/6/2009	1"	Vanguard	Clamp
2806 Fort Mohave Dr	4/19/2005	7/9/2009	Nipple	Pvc	
2842 Cactus Bloom Dr	6/2/1996	7/18/2009	1"	Vanguard	
984 Desert Nights Ln	7/1/1995	7/24/2009	1"	Vanguard	Clamp
2750 Sidewheel Dr	4/19/2005	7/24/2009	1"	Vanguard	Clamp
2782 Sidewheel Dr	4/19/2005	7/25/2009	1"	Vanguard	Clamp
952 Desert Nights Ln	7/1/1995	7/28/2009	1"	Vanguard	
2714 Sidewheel Dr	4/19/2005	8/1/2009	1"	Vanguard	Clamp
2873 Steamboat Dr	4/19/2005	8/1/2009	1"	Vanguard	Clamp
1098 Canyon Cv	2/10/1997	8/4/2009	1"	Dris	Clamp
1035 Legancy Dr	7/1/1995	8/7/2009	1"	Coupler	
2851 Sidewheel Dr	4/19/2005	8/19/2009	1"	Vanguard	Clamp
1423 Pioneer Trl	4/19/2005	8/19/2009	1"	Vanguard	Replaced section next to Corp
2926 Fort Silver Dr	4/19/2005	8/20/2009	1"	Vanguard	Clamp
2832 La Paloma Dr	12/9/2002	8/22/2009	1"	Vanguard	Clamp
2845 Cactus Bloom Dr	6/2/1996	8/25/2009	3/4"	Dris	Two Clamps
1013 Bella Luna Dr	2/3/2004	8/26/2009	1"	Vanguard	
2730 Sidewheel Dr	4/19/2005	8/28/2009	1"	Vanguard	
2817 Quail Song Ln	12/9/2002	8/30/2009	1"	Vanguard	Replaced section
1438 Pioneer Trl	4/19/2005	9/4/2009	1"	Vanguard	Replaced section
1001 Bella Luna Dr	2/3/2004	9/19/2009	1"	Vanguard	Clamp
2869 Esmerelda Dr	4/19/2005	9/30/2009	1"	Vanguard	Clamp
2836 Cactus Bloom Dr	6/2/1996	10/4/2009	1"	Vanguard	Clamp
2845 Esmerelda Dr	4/19/2005	10/4/2009	1"	Vanguard	Clamp
1033 Bella Luna Dr	2/3/2004	10/8/2009	1"	Vanguard	Clamp
2794 Sidewheel Dr	4/19/2005	10/14/2009	1"	Vanguard	Replaced section
2873 Fort Mohave Dr	4/19/2005	10/14/2009	1"	Copper	Tighten Fitting
1096 Desert Nights Ln	2/3/2004	10/16/2009	3/4"	Pvc	Custromer side broke after replaceing service line
1017 Bella Luna Dr	2/3/2004	10/16/2009	1"	Vanguard	Replaced section
2873 Esmerelda Dr	4/19/2005	10/18/2009	1"	Vanguard	Clamp
2824 Steamboat Dr	4/19/2005	10/18/2009	1"	Vanguard	Replaced section
1027 Legacy Dr	7/1/1995	11/27/2009	1"	Vanguard	Replaced section to meters
2761 Singing Breeze Ln	12/9/2002	12/6/2009	1"	Vanguard	Clamp
2937 Lakeview Dr	6/2/1996	12/12/2009	1"	Dris	Clamp
2743 Sidewheel Dr	4/19/2005	1/3/2010	1"	Vanguard	
Desert Trail		1/8/2010	2"	Blow off	Replaced blow off
2750 Sidewheel Dr	4/19/2005	1/17/2010	1"	Vanguard	Clamp
2721 Desert Flower Dr	10/2/2002	1/20/2010	2"	Dris	Clamp
3000 Desierto Varde	9/25/1997	1/29/2010	1"	Dris	Leak next to Corp
1025 Bella Luna Dr	2/3/2004	2/12/2010	1"		Replaced section from branch
2906 Desert Vista Dr	6/2/1996	2/12/2010	BV	BV	
2770 Esmerelda Dr	4/19/2005	2/16/2010	1"	Vanguard	Clamp
2984 La Paloma Dr	7/1/1995	2/18/2010	1"	Dris	Replaced section from Corp

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2795 Desert Follthills Blvd	5/27/1996	2/26/2010	2"	Dris	Replaced section
2854 Fort Silver Dr	4/19/2005	3/16/2010	1"	Vanguard	Clamp
Pioneer Trl & William Hardy		3/30/2010	2"	Vanguard	Replaced section
2633 La Paloma Dr		4/1/2010	1"	Dris	Clamp
2849 Esmerelda Dr	4/19/2005	4/12/2010	1"	Vanguard	Clamp
2862 Cactus Bloom Dr	6/2/1996	4/19/2010	3/4"	Dris	Clamp
2891 Fort Silver Dr	4/19/2005	4/25/2010	2"	Vanguard	Clamp
2651 La Costa Dr	2/3/2004	5/19/2010	1"	Vanguard	Clamp
1121 Legends Dr	10/2/2002	6/14/2010	1"	Dris	Replaced section
2795 Desert Foothills Blvd	5/27/1996	7/13/2010	2"	Dris	Clamp
2924 Esmerelda Dr	4/19/2005	7/21/2010	1"	Vanguard	Clamp
2813 Fort Mohave Dr	4/19/2005	7/23/2010	3/4"		Replace fitting on cust side
2813 Fort Mohave Dr	4/19/2005	7/24/2010	1"	Pvc	Replace fitting on cust side
2893 Desert Vista Dr	6/2/1996	7/24/2010	3/4"	Pvc	Replace fitting on cust side
2838 Sidewheel Dr	4/19/2005	7/31/2010	1"	Vanguard	Clamp
2766 Esmerelda Dr	4/19/2005	8/4/2010	1"	Vanguard	Replaced section
2824 Steamboat Dr	4/19/2005	8/17/2010	3/4"	Pvc	Customer side broke after svc was replaced
2843 Fort Silver Dr	4/19/2005	9/1/2010	3/4"	Pvc	Customer side broke from prevoius repair
2825 Fort Silver Dr	4/19/2005	9/24/2010	1"	Vanguard	Clamp
2830 Quail Song Ln	12/9/2002	9/25/2010	1"	Vanguard	Clamp
2663 La Costa Dr	2/3/2004	9/28/2010	1"	Vanguard	Clamp
2873 Fort Silver Dr	4/19/2005	10/23/2010	1"	Vanguard	Clamp
2875 Ventana Dr	12/9/2002	11/7/2010	1"	Vanguard	Clamp
2873 Steamboat Dr	4/19/2005	1/10/2011	1"	Vanguard	Clamp
2795 Desert Foothills Blvd	5/27/1996	1/24/2011	1"	Dris	Clamp
2685 Desert Flower Dr	10/2/2002	2/15/2011	1"	Dris	Replaced section
2191 Steamboat Dr		3/8/2011	1"	Vanguard	Clamp
2766 Esmerelda Dr	4/19/2005	3/18/2011	1"	Pvc	Cracked coupling
2855 Steamboat Dr	4/19/2005	4/14/2011	1"	Vanguard	Clamp
2842 Cactus Bloom Dr	6/2/1996	4/22/2011	1"	Vanguard	Clamp
2824 La Paloma Dr	12/9/2002	4/26/2011	1"	Vanguard	Clamp
2793 Steamboat Dr	4/19/2005	4/30/2011	3/4"	Cust	Customer side broke after a svc replacment
2958 Esmerelda Dr	4/19/2005	5/2/2011	1"	Copper	Bad compression coupling
2895 Esmerelda Dr	4/19/2005	5/2/2011	1"	Copper	Bad Grip tight fitting
Desert Vista Dr IRRIG		5/4/2011	2"	Dris	Clamp
1145 Legends Dr	10/2/2002	6/2/2011	1"	Dris	Clamp
2930 La Paloma Dr	7/1/1995	6/11/2011	1"	Dris	Replaced section
2836 Catus Bloom	6/2/1996	6/17/2011	1"	Dris	Clamp
2920 Fort Mohave Dr	4/19/2005	6/24/2011	3/4"	Pvc	Cust side broke after svc was replaced
2680 Desert Flower Dr	10/2/2002	6/30/2011	1"	Dris	Clamp
2800 Fort Mohave Dr	4/19/2005	7/7/2011	1"	Pvc	Cust side broke after svc replacement
2855 Steamboat Dr	4/19/2005	7/14/2011	1"	Vanguard	Clamp
2795 Desert Foothills Blvd	5/27/1996	8/3/2011	2'	Dris	Clamp
2668 Bella Sera Dr	2/3/2004	8/8/2011	1"	PVC	Cust side brk after svc replacement.
2674 Bella Sera Dr	2/3/2004	8/8/2011	1"	〃 〃 〃	〃 〃 〃

MOHAVE DISTRICT, DESERT FOOTHILLS WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
William Hardy		9/24/2011	1"	Vanguard	Abondon Unused svc line
2944 Fort Silver Dr	4/19/2005	10/15/2011	1"	Vanguard	Clamp
Aztec Cv / NOA. C-M		12/7/2011	1"	Vanguard	Shut main off to unpaved road
2890 Fort Silver Dr	4/19/2005	1/22/2012	3/4"	Pvc	Break on Cust side after svc repl, replaced pvc adapter
2893 Desert Trail Dr	6/2/1996	2/17/2012	3/4"	Brass	Replaced bushing
2893 Desert Trail Dr	6/2/1996	4/18/2012	1"	Dris	Clamp
2885 Esmerelda Dr	4/19/2005	4/24/2012	1"	Vanguard	Clamp
2721 Desert Flower Dr	10/2/2002	6/10/2012	2"	Dris	Replaced a 2' of poly at blow off
1145 Legends Dr	10/2/2002	6/16/2012	1"	Dris	replaced a 3' section of poly
2795 Desert Foothills Blvd	5/27/1996	7/13/2012	2"	Dris	Clamp
1113 Desert Merigold Cir	10/2/2002	8/6/2012	1"	Dris	Clamp
1081 Desert Merigold Cir	10/2/2002	8/19/2012	1"	Brass	Replaced mueller that blew off
2708 Desert Flower Dr	10/2/2002	8/20/2012	3/4"	Pvc	Leak on customer side
2795 Desert Foothills Blvd	5/27/1996	9/20/2012	2"	clamp	
2985 Desierto Verde	9/25/1997	11/6/2012	1"	Dris	Clamp
Desert vista and Desert trl	6/2/1996	12/31/2012	2"	Vanguard	Saddle was leaking so we clamped and retapped

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
541 Locust Ct	7/1/1975	3/6/2006	1"	Vanguard	
2514 Hillcrest Park	6/4/2003	7/7/2006	1"	Vanguard	
776 Desert Crest Dr	6/4/2003	7/17/2008	1"	Copper	
755 Laura Crest Dr	6/4/2003	9/3/2008	1"	Copper	
3108 Larkwood Ave	7/1/1975	11/12/2008	1"	Copper	
763 Laura Crest Dr	6/4/2003	5/18/2009	1"	Copper	
2583 Mountain Crest Way	6/4/2003	6/23/2009	1"	Copper	
2521 Hillcrest Dr	6/4/2003	7/8/2009	1"	Copper	
762 Desert Crest Dr	6/4/2003	7/8/2009	1"	Copper	
2557 Crested Butte Dr	6/4/2003	11/10/2009	1"	Copper	
2040 Pegasus Ranch Rd	6/21/1983	4/26/2010	1"	Copper	
3067 Larkwood Ave	7/1/1975	5/18/2010	1"	Copper	
770 Laura Crest Dr	6/4/2003	7/17/2010	1"	Copper	
2569 Crested Butte Dr	6/4/2003	7/29/2011	1"	Copper	
3058 Rosewood Ave	7/1/1975	10/21/2011	1"	Copper	
2505 Hillcrest Pard Dr	6/4/2003	4/13/2012	1"	Copper	
3130 Larkwood Ave	7/1/1975	10/23/2012	1"	Copper	
532 Locust Way		4/3/2013	1"	Copper	
3145 Mulberry Ct	7/1/1975	6/27/2013	1"	Copper	

MOHAVE DISTRICT, CAMP MOHAVE WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
4577 Camino Bruja	7/1/1958	11/4/2003	1"	Galv.	
4589 Camino Bruja	7/1/1958	11/10/2003	1"	Galv.	
4555 Camino Ejercito	7/1/1958	10/16/2005	1'	1" Vanguard	
4509 Patina Rd	7/1/1958	1/12/2006	1"	Vanguard	
1376 Sierra Rd	7/1/1958	2/24/2011	1"	Copper	
4557 Patina Rd	7/1/1958	2/24/2011	1"	Copper	
4567 Camino Bruja	7/1/1958	8/15/2012	1"	Copper	

MOHAVE DISTRICT, RIO VISTA WATER SYSTEM - SERVICE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACEMENT DATE	SIZE	REPLACEMENT MATERIAL	Notes
4683 La Raquiza Dr		6/11/2012	3/4"	Copper	
4939 La Raquiza Dr	7/1/1979	9/29/2012	1"	Copper	
4567 GhostFlower Pass	7/10/2002	6/6/2013	1"	Copper	

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2049 Peagus Ranch Rd	6/21/1983	6/7/2004	1"	Driscope	Clmap
645 Oak Ave	7/1/1975	7/20/2004	1"	ABS	
661 Oak Ave	7/1/1975	7/21/2004	1"	abs	sectioned back together
3108 Larkwood Ave	7/1/1975	12/20/2004	1"	CTS Poly	Clamp
3122 Larkwood Ave	7/1/1975	1/28/2005	1"	abs	Tightened Clamp
3084 Oak Cir	7/1/1975	2/11/2005	1"	pvc	flow lock and valve
673 Hickory St	7/1/1975	8/31/2005	1"	PVC	Replaced tee and valves
641 Oak Ave	7/1/1975	10/11/2005	1"	Pvc	Replaced tee and valves
775 Desert Crest Dr	6/4/2003	10/21/2005	1"	Driscope	Clamp
3145 Mulberry Ct	7/1/1975	11/14/2005	3/4"	Driscope	Clamp
Larkood & Park River	7/1/1975	12/12/2005	3/4"	Poly	Clamp
3036 Locust Blvd	7/1/1975	2/15/2006	1"	Pvc	Broke by Claw Construction
626 Locust Way	7/1/1975	2/23/2006	1"	Pvc	Bank Fell broke svc line By Claw
541 Locust Ct	7/1/1975	3/6/2006	1"	Pvc	Bank Fell broke svc line By Condie
3061 Oak Pl	7/1/1975	3/15/2006	1"	Pvc	Broke svc while digging to install Sewer laterial
3108 Larkwood Ave	7/1/1975	3/16/2006	1"	Pvc	Clamp
620 Oak Ave	7/1/1975	3/20/2006	3/4"	Pvc	replaced tee and valve, Meter box ran over by heavy equipment
3060 Hickory St	7/1/1975	3/28/2006	1"	Pvc	Replaced 11Feet with Poly
665 Oak Ave	7/1/1975	4/11/2006	3/4"	Sch 40	Replaced section
3108 Mulberry Dr	7/1/1975	4/12/2006	3/4"	Dris	Replaced section to meter
3102 Locust Blvd	7/1/1975	4/13/2006	1"	PVC	Bad Compaction pipe split while compacting asphalt
3030 Rosewood Ave	7/1/1975	4/26/2006	1"	pvc	Rock fell on pipe
626 Sycamore Ct	7/1/1975	4/26/2006	1"	Pvc	svc took hard turn mark off alittle
618 Sycamore CT	7/1/1975	4/27/2006	3/4"	Pvc	Cracked digging lateral
3134 Sycamore Ave	7/1/1975	5/1/2006	1"	Pvc	Hit Installiing main line. Was cut out the way to pull shield
3209 Sycamore Dr	7/1/1975	5/2/2006	1"	Pvc	Claw hit tee, We rplaced tee and valves
644 Oak Ave	7/1/1975	5/9/2006	1"	Pvc	Come out after hours reroute svc around Manhole
644 Oak Ave	7/1/1975	5/10/2006	1"	Saddle	Had to replace saddle
3108 Locust Blvd	7/1/1975	5/15/2006	3/4"	Pvc	???
3108 Locust Blvd	7/1/1975	5/15/2006	1"	Pvc	Flow lock valve on empty svc line
3183 Sycamore Ave	7/1/1975	5/16/2006	1"	Poly	Mismaked
642 Oak ave	7/1/1975	5/16/2006	1"	Pvc	Mark was good
3084 Oak Ave	7/1/1975	5/17/2006	1"	Pvc	Marks were good, Replced corp 17 feet of pipe
3208 Sycamore Ave	7/1/1975	5/22/2006	1"	Poly	Marks were good
3201 Mullbery Ct	7/1/1975	6/8/2006	3/4"	Dris	Marks were good
3151 Mullberry CT	7/1/1975	7/6/2006	1"	Poly	Clamp
2025 Pegasus Ranch Rd	6/21/1983	7/9/2006	1"	Dris	Replaced section
3151 Mullberry CT	7/1/1975	8/16/2006	Saddle	Dris/CTS 1"	Replaced saddle tied back in

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
2504 Heather Dr	6/4/2003	8/16/2006	1"	Dris	Replaced section to Meter valves
3074 Larkwood Ave	7/1/1975	8/20/2006	1"	Dris/CTS 1"	Replaced section
Larkwood & Parkriver	7/1/1975	10/8/2006	1"	Poly	Clamp
2538 Mountain Crest Dr	6/4/2003	10/30/2006	1"	Dris	Replaced section
3108 Larkwood Ave	7/1/1975	11/20/2006	3/4"	Poly	Clamp
3082 Larkwood Ave	7/1/1975	11/28/2006	1"	CTS Poly	Marks were good but destoyed due to age of ticket
3084 Larkwood Ave	7/1/1975	12/7/2006	3/4"	CTS Poly	Marks were good
2510 Hillcrest Dr	6/4/2003	3/27/2007	1"	Dris	Replaced section
2542 Crested Butte DR	6/4/2003	4/3/2007	1"	Dris	Hose clamp
769 Desert Crest Dr	6/4/2003	6/22/2007	1"	Dris	Replaced section
2516 Heather Dr	6/4/2003	6/27/2007	1"	Dris	Replaced section
2545 Crested Butte DR	6/4/2003	8/15/2007	1"	Dris	Replaced section
3022 Rosewood Ave	7/1/1975	9/4/2007	3/4"	Dris	
763 Desert Crest Dr	6/4/2003	9/5/2007	1"	Dris	Replaced section
3127 Larkwood Ave	7/1/1975	9/11/2007	1"	Dris	
3013 Hickory St	7/1/1975	9/17/2007	Nipple	Nipple	
3108 Larkwood Ave	7/1/1975	10/8/2007	3/4"	Dris	
3074 Larkwood Ave	7/1/1975	10/11/2007	3/4"	Dris	
751 Robin Dr	7/1/1975	1/3/2008	3/4"	Poly	Replaced saddle
2504 Heather Dr	6/4/2003	3/3/2008	1"	Dris	
2553 Hillcrest Park Ln	6/4/2003	4/15/2008	1"	Dris	Replaced section
3058 Rosewood Ave	7/1/1975	5/6/2008	3/4"	Poly	
3018 Larkwood Ave	7/1/1975	5/6/2008	3/4"	Poly	
2500 Heather Dr	6/4/2003	6/12/2008	1"	Dris	Clamp
2043 Pegasus Ranch Rd	6/21/1983	7/21/2008	1"	Dris	Clamp
3090 Larkwood Ave	7/1/1975	8/19/2008	3/4"	Dris	
3108 Larkwood Ave	7/1/1975	9/5/2008	3/4"	Dris	
2521 Hillcrest Park Dr	6/4/2003	11/17/2008	1"	Dris	
3074 Larkwood Ave	7/1/1975	11/25/2008	3/4"	Dris	
2561 Crested Butte Dr	6/4/2003	7/10/2009	1"	Dris	Clamp
3058 Rosewood Ave	7/1/1975	7/10/2009	1"	Dris	Clamp
2530 Mountain Crest Dr	6/4/2003	7/15/2009	1"	Dris	Clamp
3060 Hickory St	7/1/1975	10/12/2009	BV	BV	Replaced ball valve
617 Sycamore Ct	7/1/1975	12/10/2009	BV	BV	
3175 Sycamore Ave	7/1/1975	1/12/2010	1"	Dris	Clamp
3122 Larkwood Ave	7/1/1975	4/30/2010	1"	Dris	Replaced 90' at corp
3090 Larkwood Ave	7/1/1975	6/19/2010	Saddle	Saddle	replaced 4x1 saddle
3218 Sycamore Pl	7/1/1975	9/2/2010	BV	BV	
3209 Sycamore Pl	7/1/1975	9/23/2010	3/4"	Nipple	
3190 Sycamore Ave	7/1/1975	9/26/2010	3/4"	Dris	Clamp
625 Locust Way	7/1/1975	9/29/2010	Nipple	Nipple	replaced nipple and valve
3144 Locust Blvd	7/1/1975	1/14/2011	1"	PVC	Moved 7 Feet to property line for cust
648 Oak Ave	7/1/1975	1/29/2011	1"	Pvc	Replaced tee and valves, cust broke trying to remove tree roots
2537 Hillcrest Dr	6/4/2003	5/10/2011	1"	Vanguard	Clamp
2578 Mountain Crest Dr	6/4/2003	6/10/2011	1"	Dris	Clamp

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

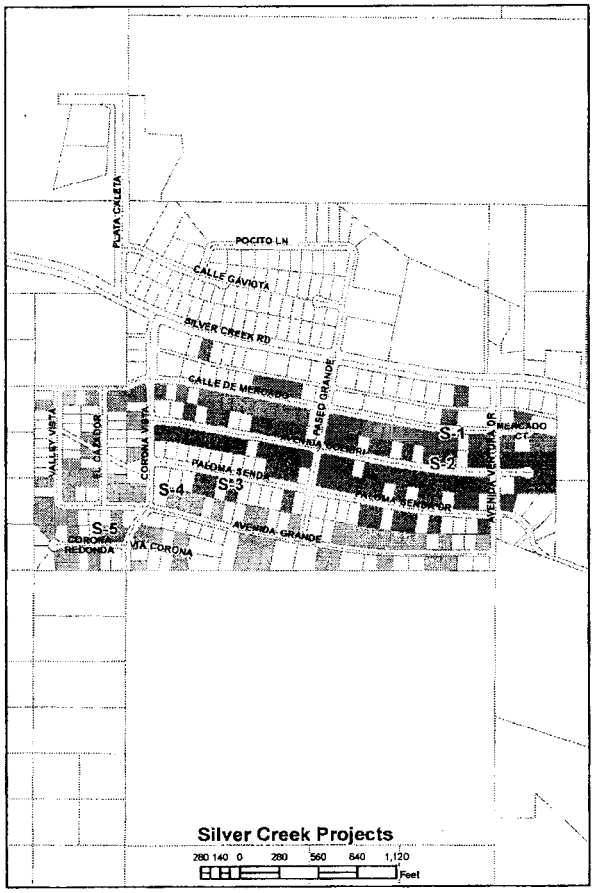
ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
3174 Locust Blvd	7/1/1975	8/8/2011	BV	BV	
2072 Pegasus Ranch Rd	6/21/1983	4/25/2012	1"	Vanguard	Clamp
3145 Mullberry Ct	7/1/1975	6/26/2012	3/4"	Dris	Clamp
3151 Mullberry Ct	7/1/1975	7/26/2012	3/4"	Dris	Clamp
3145 Mullberry Ct	7/1/1975	10/1/2012	1"	Dris	Clamp
3168 Mullberry Ct	7/1/1975	10/23/2012	1"	Pvc	Replaced fifteen feet with copper
3156 Larkwood Ave	7/1/1975	12/19/2012	3/4"	Pvc	Repaired cust side after city grader ran over box
2582 Mountain Crest Dr	6/4/2003	1/16/2013	1"	Drisc	Replaced 2' of poly at boxes
3201 Sycamore Pl	7/1/1975	2/9/2013	1"	Drisc	Service leaking at saddle no corp. installed corp
664 Hickory St	7/1/1975	3/13/2013	3/4"	BV	
3000 Larkwood Ave	7/1/1975	4/29/2013	1"	Clamp	

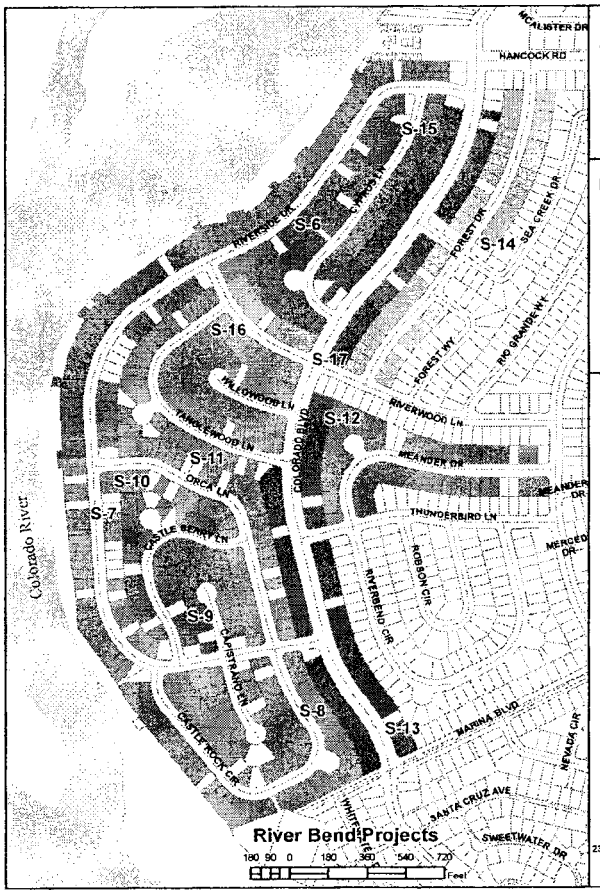
MOHAVE DISTRICT, RIO VISTA WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
4974 Calle Del Media	7/1/1979	11/25/2009	BV	BV	Replaced angle valve
1813 Panadero Rd	7/1/1979	1/7/2010	BV	BV	
4848 Calle Del Media	7/1/1979	1/26/2010	Riser	Riser	
4903 El Ranchero Dr	7/1/1979	3/30/2010	3/4"	Mtr Gasket	Replaced meter gasket
4535 Marguerite Ln	7/10/2002	11/7/2010	1"	Dris	Clamp
4903 El Ranchero Dr	7/1/1979	11/30/2010	Gasket	Gasket	Meter Gasket
4553 Marguerite Ln	7/10/2002	4/28/2011	1"	Dris	Bad install
4683 La Riqueza Rd		5/16/2012	3/4"	Dris	Clamp
1863 Panadero Rd	7/1/1979	9/10/2012	2"	Pvc	replaced cracked bushing
1928 Corry Ln	12/13/1989	12/26/2012	3/4"	BV	

MOHAVE DISTRICT, CAMP MOHAVE WATER SYSTEM - SERVICE REPAIRS 2003-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE	MATERIAL	NOTES
4723 Hwy 95		6/26/2007	2"	J-M	Replaced valve, meter, somebody stole while hooked up
1394 Keem Rd	7/1/1958	2/6/2008	Nipple	Nipple	
4454 Patina Rd		3/10/2009	BV	BV	Replaced valve and nipple
1376 Sierra Rd	7/1/1958	7/27/2010	3/4"	BV	Customer broke Ball Valve
4586 Camino Ejercito	7/1/1958	7/31/2010	3/4"	Pvc	Replaced nipple and 90' fitting
4577 Camino Viuda	7/1/1958	8/14/2010	3/4"	Pvc	Replaced coupler
4747 Highway 95	11/1/1999	2/16/2011	2"	BV	
4518 Camino Ejercito	7/1/1958	8/20/2012	1"	Dris	Replaced 3' of poly
1414 Sierra Rd	7/1/1958	9/10/2012	3/4"	BV	
4520 Camino Ejercito	7/1/1958	12/4/2012	3/4"	Pvc	Flow lock and rebuilt
1441 Camino Viejo	7/1/1958	5/28/2013	2"	Steel	Replaced steel saddle and rebuilt company side





Services

Mohave District
PWSID: 0407032

Mohave Water

Project Area:

River Bend and Silver Creek Service Replacement Projects 2015-2019

Legend

S-1 Project Area

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

EPCOR WATER

Created: 4/1/2014

Mohave Water District, Mohave System – PWS ID No. 08-032

SIB PLANT TABLE I, 1-1

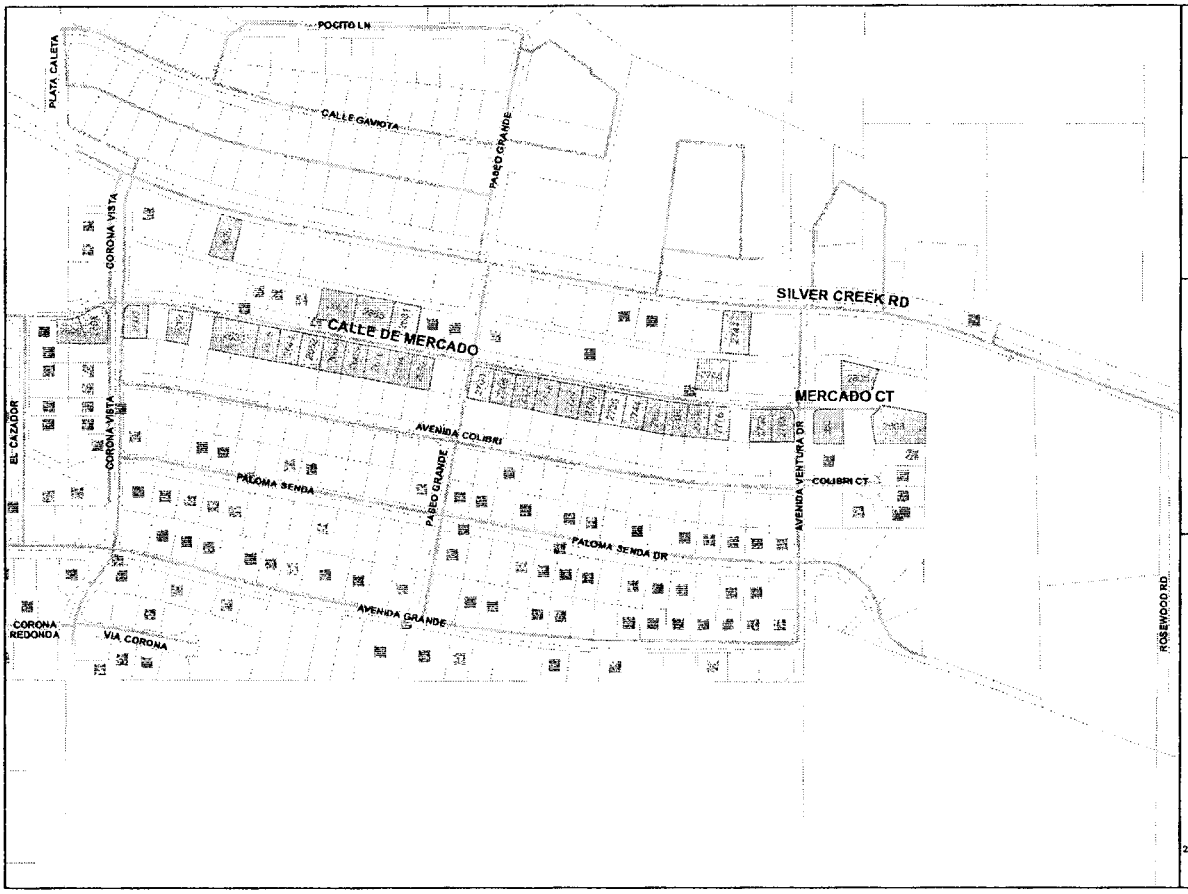
2015 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	333	service lines	36	¾" & 1"	Copper	$3,881	Calle de Mercado	12/2015	n/a	$139,709	Replace 34 residential and 2 commercial services on Silver Creek Rd, Calle de Mercado, and Mercado Ct between El Cazador and Rosewood Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 348 services in the Silver Creek area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-1 in Exhibit CC-1-A for more detail.

S-2	333	service lines	53	¾" & 1"	Copper	$3,881	Avenida Colibri	12/2015	n/a	$205,682	Replace 53 residential services on Avenida Colibri and Colibri Ct between Corona Vista and Rosewood Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 348 services in the Silver Creek area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-2 in Exhibit CC-1-A for more detail.
S-3	333	service lines	25	¾" & 1"	Copper	$3,881	Paloma Senda Dr	12/2015	n/a	$97,020	Replace 25 residential services on Paloma Senda Dr between Corona Vista and Rosewood Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 348 services in the Silver Creek area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-3 in Exhibit CC-1-A for more detail.
S-4	333	service lines	24	¾" & 1"	Copper	$3,881	Avenida Grande	12/2015	n/a	$93,139	Replace 24 residential services on Avenida Grande between Corona Vista and Avenida Ventura Dr. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 348 services in the Silver Creek area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth See Section 1 narrative and Map No. S-4 in Exhibit CC-1-A for more detail.

S-5	333	service lines	37	¾" & 1"	Copper	$3,881	El Cazador	12/2015	n/a	$143,590	Replace 37 residential services on Calle de Mercado, Valley Vista, El Cazador, Corona Vista, Avenida Grande, Corona Redonda, and Via Corona south of Silver Creek Rd Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 348 services in the Silver Creek area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-5 in Exhibit CC-1-A for more detail.
S-6	333	service lines	99	¾" & 1"	Copper	$3,881	Riverside Dr North	12/2015	n/a	$384,199	Replace 99 residential services on Riverside Dr between Orca Ln and Colorado Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-6 in Exhibit CC-1-A for more detail.
Total			**274**							**$1,063,339**	



2015

Project No: S-1 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Calle de Mercado

Project Description:

Replace 34 residential and 2 commercial services on Silver Creek Rd, Calle de Mercado, and Mercado Ct between El Cazador and Rosewood Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Silver Creek area projects (S-1 - S-5) there have been 348 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

130 65 0 130 260 390 520 Feet

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

EPCOR WATER

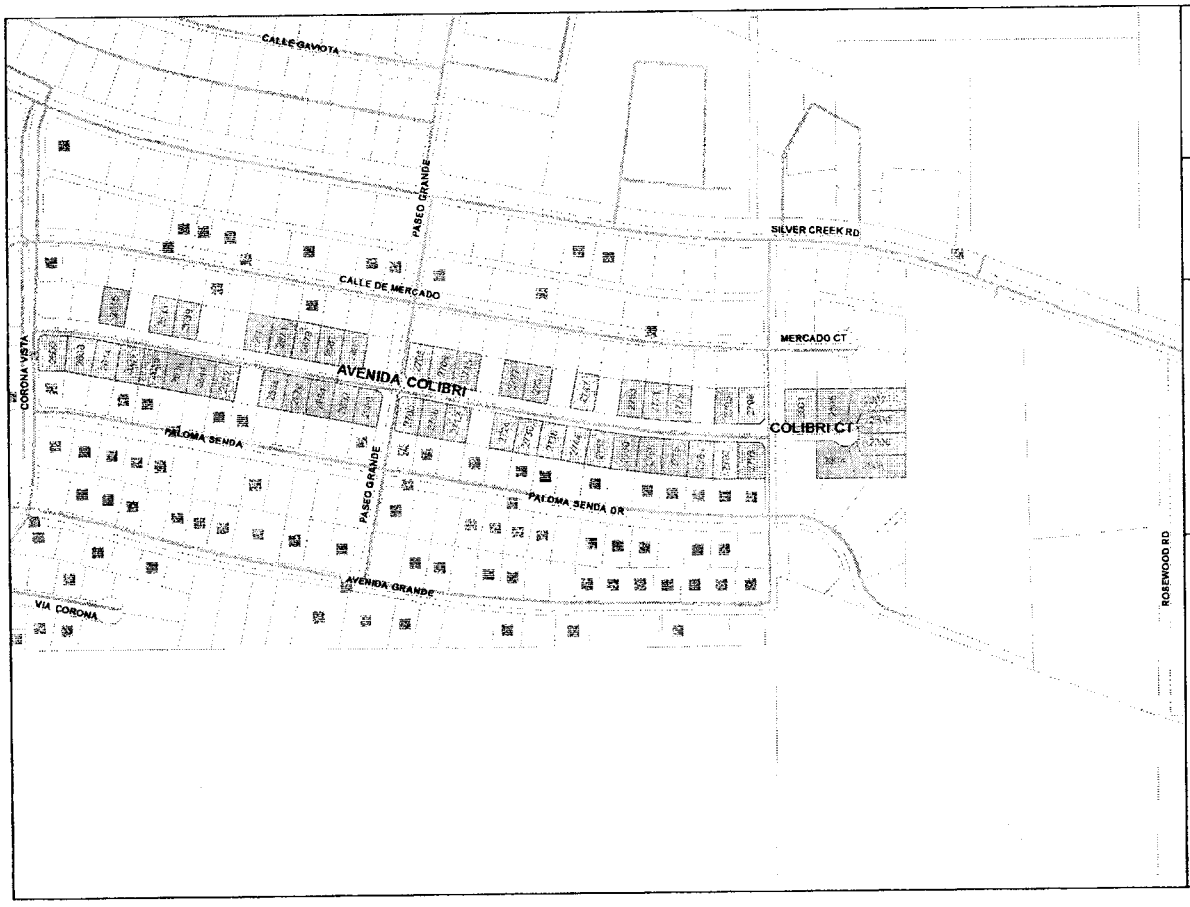
Created: 3/14/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 S-1**	Project Location: Calle de Mercado

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
36	3/4" or 1" service	3,500	Contractor material and labor to replace 34 residential and 2 commercial services on Silver Creek Rd, Calle de Mercado, and Mercado Ct between El Cazador and Rosewood Rd.	$ 126,000
36	hour	28	Company labor for field oversight and construction management	$ 1,008
Subtotal				$ 127,008
General Overhead Rate on Labor and Capital (10%)				$ 12,701
Total Estimated Cost				**$ 139,709**



2015

Project No: S-2 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Avenida Colibri

Project Description:

Replace 53 residential services on Avenida Colibri and Colibri Ct between Corona Vista and Rosewood Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Silver Creek area projects (S-1 - S-5) there have been 348 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service
- Previously Repaired or Replaced (2003-2013)
- Main

N

120 60 0 120 240 360 480
Feet

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

EPCOR WATER

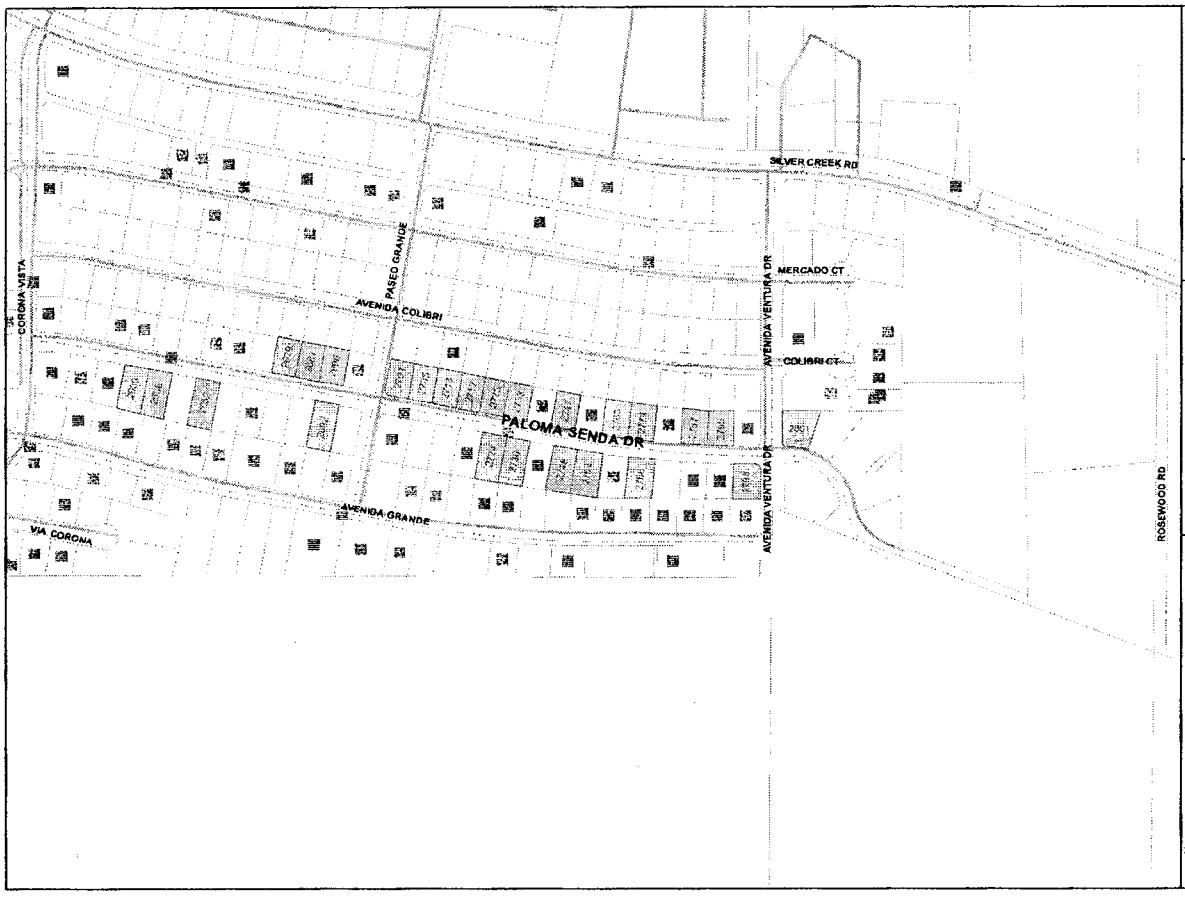
Created: 3/14/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 S-2**	Project Location: Avenida Colibri

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
53	3/4" or 1" service	3,500	Contractor material and labor to replace 53 residential services on Avenida Colibri and Colibri Ct between Corona Vista and Rosewood Rd.	$ 185,500
53	hour	28	Company labor for field oversight and construction management	$ 1,484
Subtotal				$ 186,984
General Overhead Rate on Labor and Capital (10%)				$ 18,698
Total Estimated Cost				**$ 205,682**



2015

Project No: S-3 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Paloma Senda Dr

Project Description:

Replace 25 residential services on Paloma Senda Dr between Corona Vista and Rosewood Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Silver Creek area projects (S-1 - S-5) there have been 348 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service
- Previously Repaired or Replaced (2003-2013)
- Main

N

120 60 0 120 240 360 480
Feet

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

EPCOR WATER

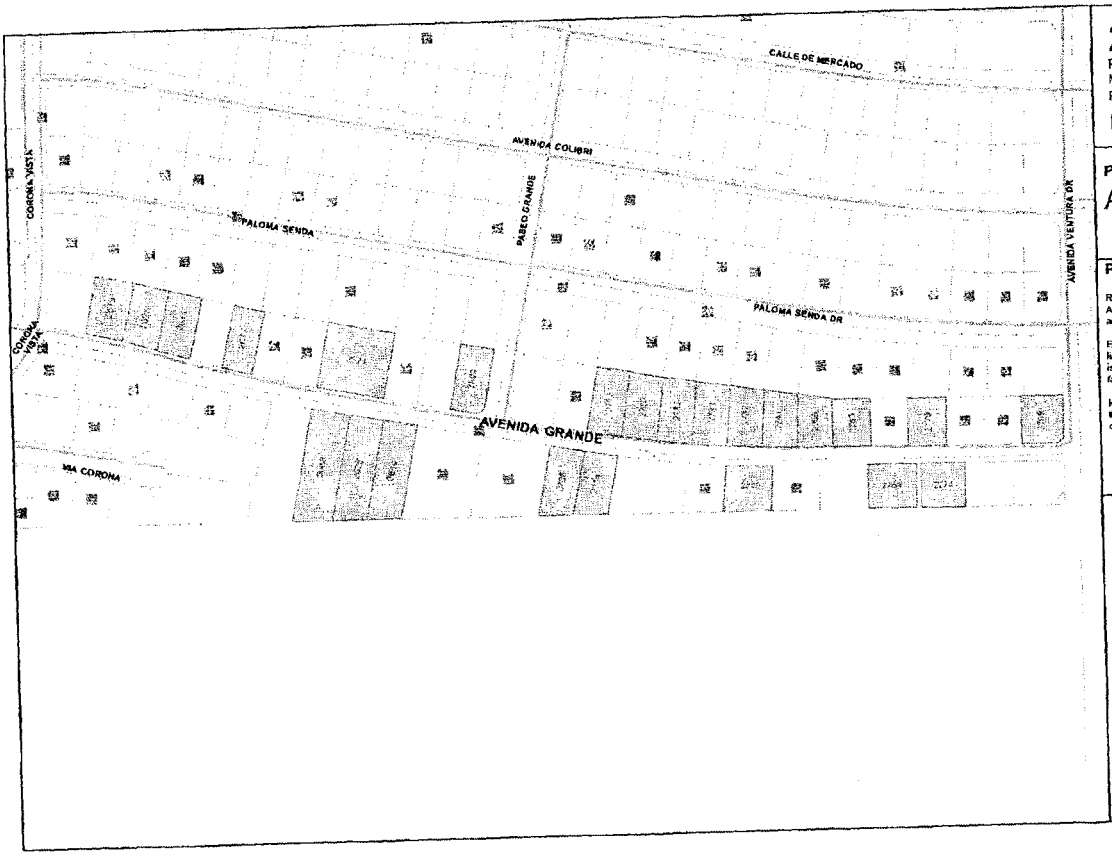
Created: 3/11/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 S-3**	Project Location: Paloma Senda Dr

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
25	3/4" or 1" service	3,500	Contractor material and labor to replace 25 residential services on Paloma Senda Dr between Corona Vista and Rosewood Rd.	$ 87,500
25	hour	28	Company labor for field oversight and construction management	$ 700
Subtotal				$ 88,200
General Overhead Rate on Labor and Capital (10%)				$ 8,820
Total Estimated Cost				**$ 97,020**



2015

Project No: S-4 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Avenida Grande

Project Description:

Replace 24 residential services on Avenida Grande between Corona Vista and Avenida Ventura Dr.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Silver Creek area projects (S-1 - S-5) there have been 348 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2015)
- Main

N

60 40 0 60 160 240 320 Feet

2393 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

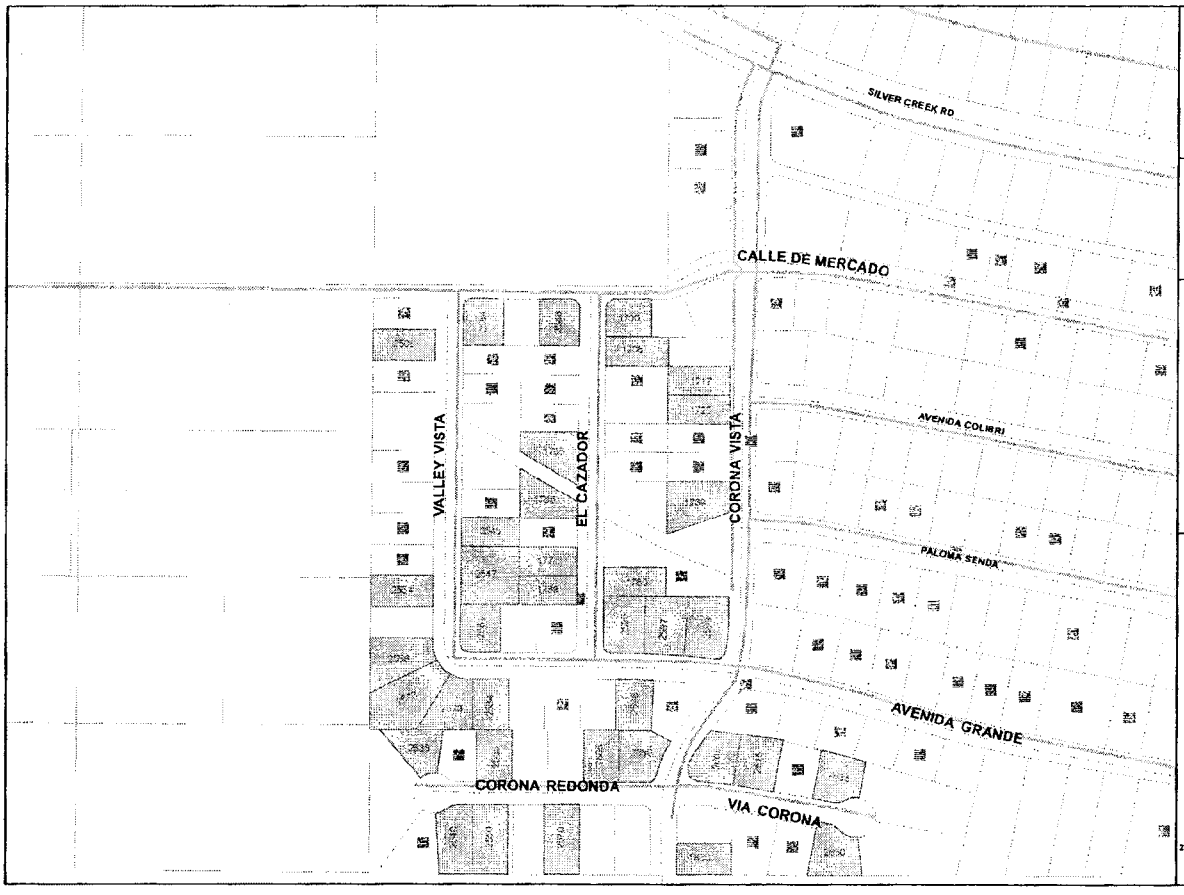
EPCOR WATER

EPCOR Water Preliminary Cost Estimate				Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 S-4**	Project Location: Avenida Grande	

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
24	3/4" or 1" service	3,500	Contractor material and labor to replace 24 residential services on Avenida Grande between Corona Vista and Avenida Ventura Dr.	$ 84,000
24	hour	28	Company labor for field oversight and construction management	$ 672
Subtotal				$ 84,672
General Overhead Rate on Labor and Capital (10%)				$ 8,467
Total Estimated Cost				**$ 93,139**



2015

Project No: S-5 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

El Cazador

Project Description:

Replace 37 residential services on Calle de Mercado, Valley Vista,El Cazador, Corona Vista, Avenida Grande, Corona Redonda and Via Coronasouth of Silver Creek Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Silver Creek area projects (S-1 - S-5) there have been 348 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/14/2014

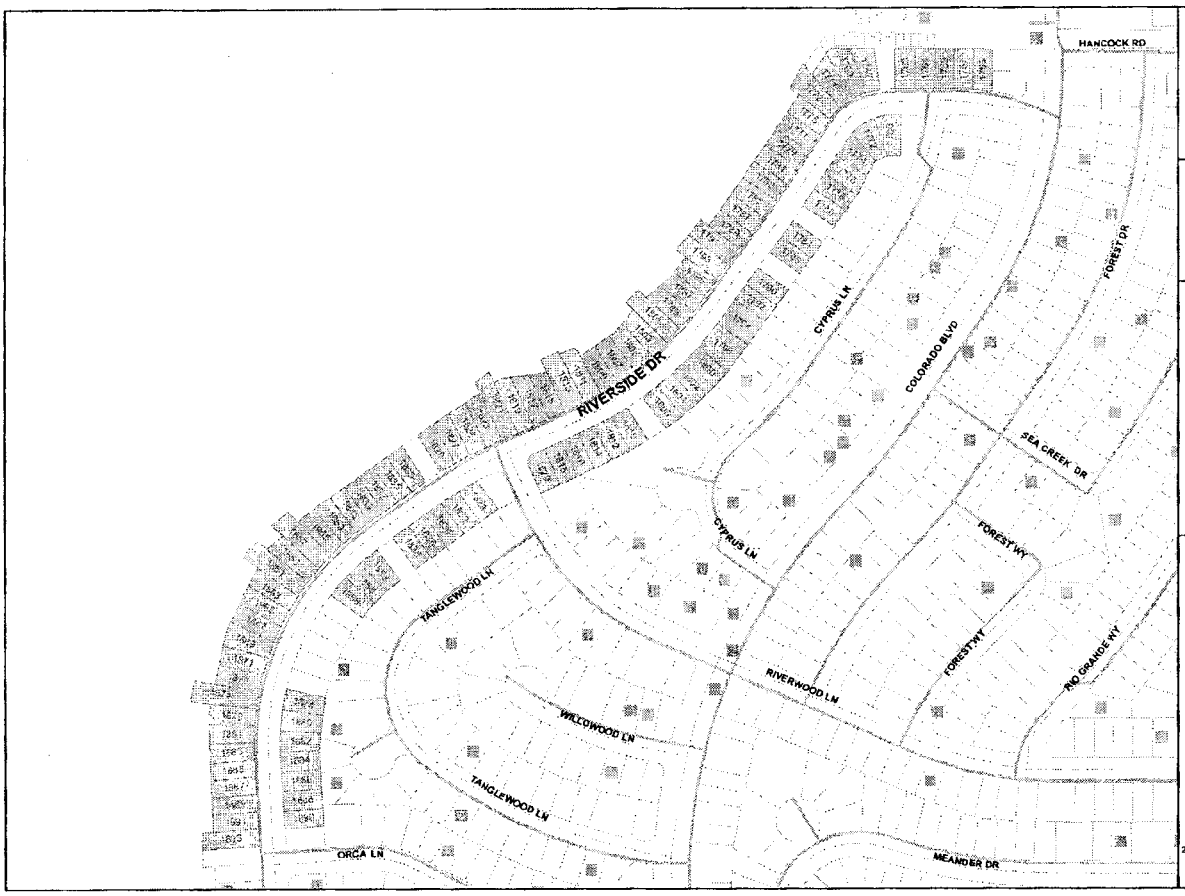
EPCOR Water 3814

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 S-5**	Project Location: El Cazador

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
37	3/4" or 1" service	3,500	Contractor material and labor to replace 37 residential services on Calle de Mercado, Valley Vista, El Cazador, Corona Vista, Avenida Grande, Corona Redonda, and Via Corona south of Silver Creek Rd.	$ 129,500
37	hour	28	Company labor for field oversight and construction management	$ 1,036
Subtotal				$ 130,536
General Overhead Rate on Labor and Capital (10%)				$ 13,054
Total Estimated Cost				**$ 143,590**



2015

Project No: S-6 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Riverside Dr North

Project Description:

Replace 99 residential services on Riverside Dr between Orca Ln and Colorado Blvd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water 2014 •

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2015 S-6**	Project Location: Riverside Dr North

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
99	3/4" or 1" service	3,500	Contractor material and labor to replace 99 residential services on Riverside Dr between Orca Ln and Colorado Blvd.	$ 346,500
99	hour	28	Company labor for field oversight and construction management	$ 2,772
Subtotal				$ 349,272
General Overhead Rate on Labor and Capital (10%)				$ 34,927
Total Estimated Cost				**$ 384,199**

Mohave Water District, Mohave System – PWS ID No. 08-032

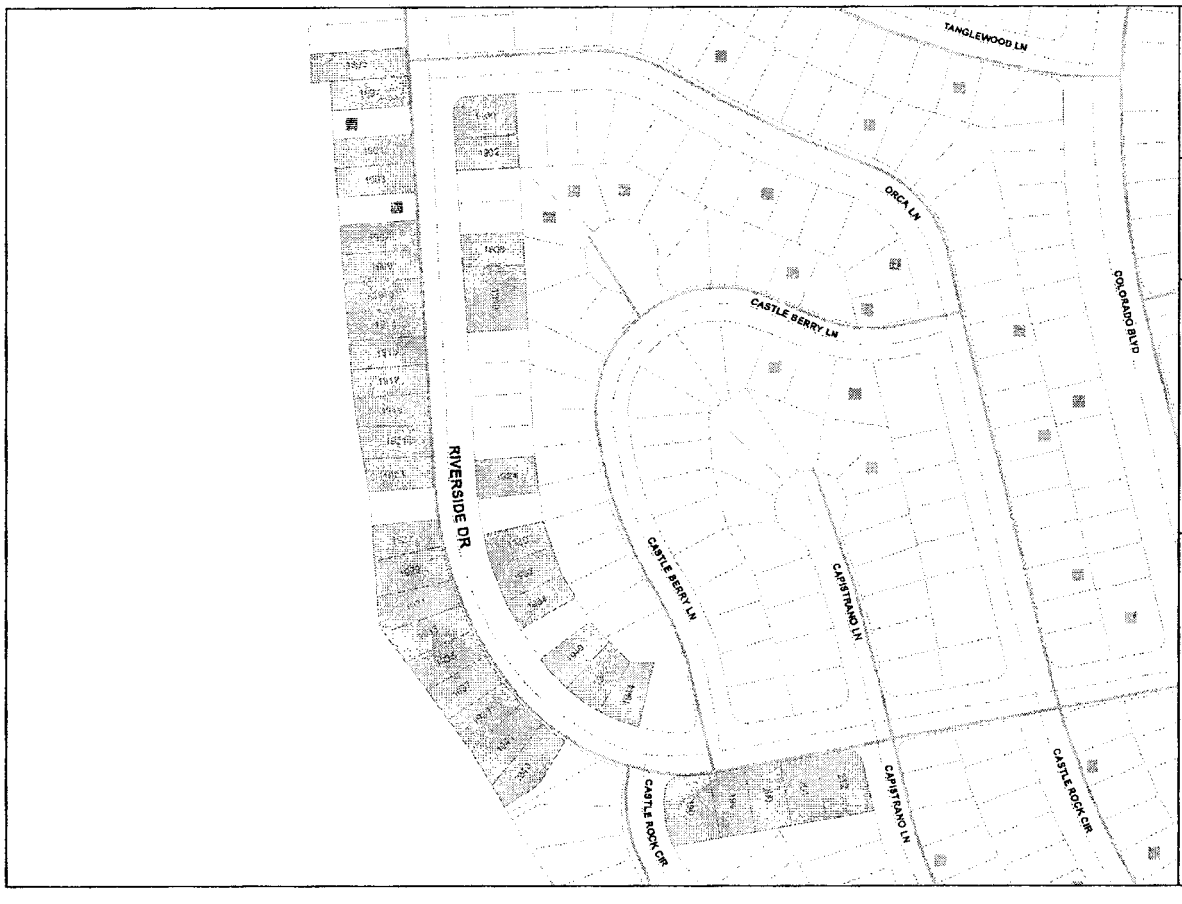
SIB PLANT TABLE I, 1-2

2016 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-7	333	service lines	38	¾" & 1"	Copper	$3,881	Riverside Dr South	12/2016	n/a	$147,470	Replace 38 residential services on Riverside Dr between Orca Ln and Capistrano Ln. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-7 in Exhibit CC-1-A for more detail.

S-8	333	service lines	69	¾" & 1"	Copper	$3,881	Castle Rock	12/2016	n/a	$267,775	Replace 69 residential services on Castle Rock Cir and Capistrano Ln between Riverside Dr and Marina Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-8 in Exhibit CC-1-A for more detail.
S-9	333	service lines	46	¾" & 1"	Copper	$3,881	Capistrano Ln	12/2016	n/a	$178,517	Replace 46 residential services on Castle Berry Ln and Capistrano Ln between Riverside Dr and Orca Ln. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-9 in Exhibit CC-1-A for more detail.
Total			**153**							**$593,762**	



2016

Project No: S-7 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Riverside Dr South

Project Description:

Replace 38 residential services on Riverside Dr between Orca Ln and Capistrano Ln.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

50 25 0 50 100 150 200 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water
Preliminary Cost Estimate

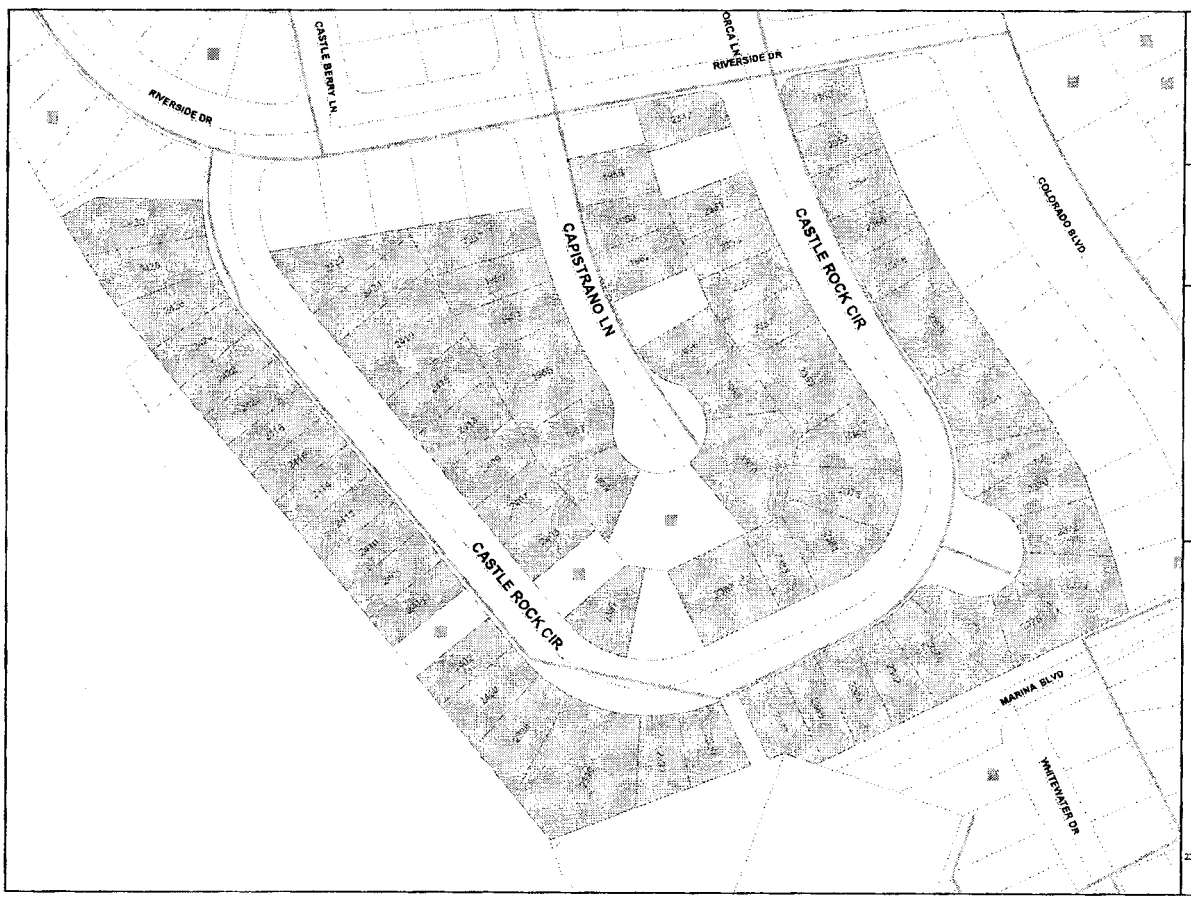
Date Prepared: 1/31/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2016 S-7**	Riverside Dr South

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
38	3/4" or 1" service	3,500	Contractor material and labor to replace 38 residential services on Riverside Dr between Orca Ln and Capistrano Ln.	$ 133,000
38	hour	28	Company labor for field oversight and construction management	$ 1,064
Subtotal				$ 134,064
General Overhead Rate on Labor and Capital (10%)				$ 13,406
Total Estimated Cost				**$ 147,470**



2016

Project No: S-8 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Castle Rock Cir

Project Description:

Replace 69 residential services on Castle Rock Cir and Capistrano Ln between Riverside Dr and Marina Blvd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service
- Previously Repaired or Replaced (2003-2013)
- Main

N

30 15 0 30 60 90 120 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water 2014

EPCOR Water

Preliminary Cost Estimate

Date Prepared: 1/31/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2016 S-8**	Castle Rock Cir

Project Description:

Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
69	3/4" or 1" service	3,500	Contractor material and labor to replace 69 residential services on Castle Rock Cir and Capistrano Ln between Riverside Dr and Marina Blvd.	$ 241,500
69	hour	28	Company labor for field oversight and construction management	$ 1,932
Subtotal				$ 243,432
General Overhead Rate on Labor and Capital (10%)				$ 24,343
Total Estimated Cost				**$ 267,775**

2016

Project No: S-9 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Capistrano Ln

Project Description:

Replace 46 residential services on Castle Berry Ln and Capistrano Ln between Riverside Dr and Orca Ln.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service
- Previously Repaired or Replaced (2003-2013)
- Main

N

40 20 0 40 80 120 160 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water AZ Inc

EPCOR Water Preliminary Cost Estimate			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2016 S-9**	Project Location: Capistrano Ln

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
46	3/4" or 1" service	3,500	Contractor material and labor to replace 46 residential services on Castle Berry Ln and Capistrano Ln between Riverside Dr and Orca Ln.	$ 161,000
46	hour	28	Company labor for field oversight and construction management	$ 1,288
Subtotal				$ 162,288
General Overhead Rate on Labor and Capital (10%)				$ 16,229
Total Estimated Cost				**$ 178,517**

Mohave Water District, Mohave System – PWS ID No. 08-032

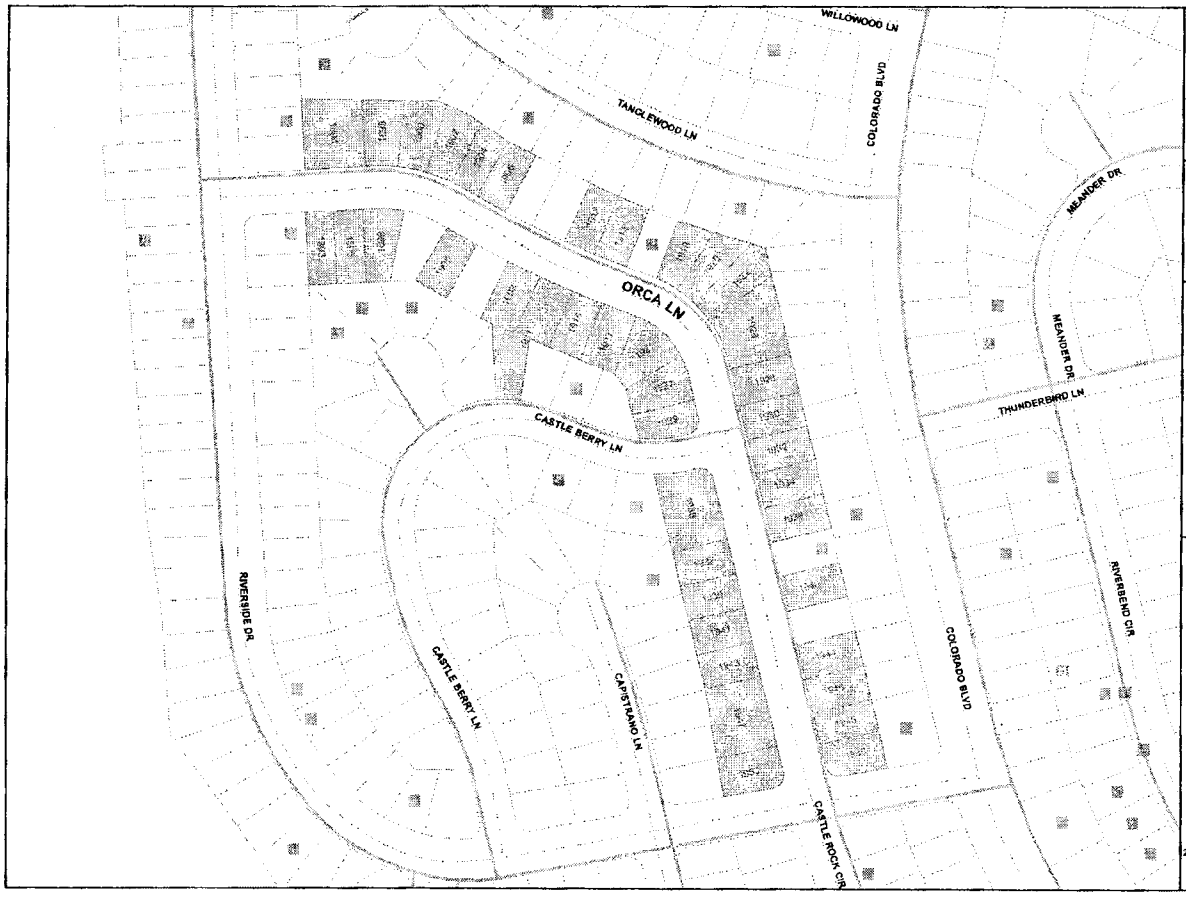
SIB PLANT TABLE I, 1-3

2017 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-10	333	service lines	40	¾" & 1"	Copper	$3,881	Orca Ln	12/2017	n/a	$155,232	Replace 40 residential services on Orca Ln between Riverside Dr and Colorado Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-10 in Exhibit CC-1-A for more detail.

S-11	333	service lines	62	¾" & 1"	Copper	$3,881	Tanglewood Ln	12/2017	n/a	$240,610	Replace 62 residential services on Tanglewood Ln and Willowood Ln between Riverside Dr and Colorado Blvd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-11 in Exhibit CC-1-A for more detail.
Total			**102**							**$395,842**	



2017

Project No: S-10 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Orca Ln

Project Description:

Replace 40 residential services on Orca Ln between Riverside Dr and Colorado Blvd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

50 25 0 50 100 150 200 Feet

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

EPCOR WATER

Created: 3/14/2014

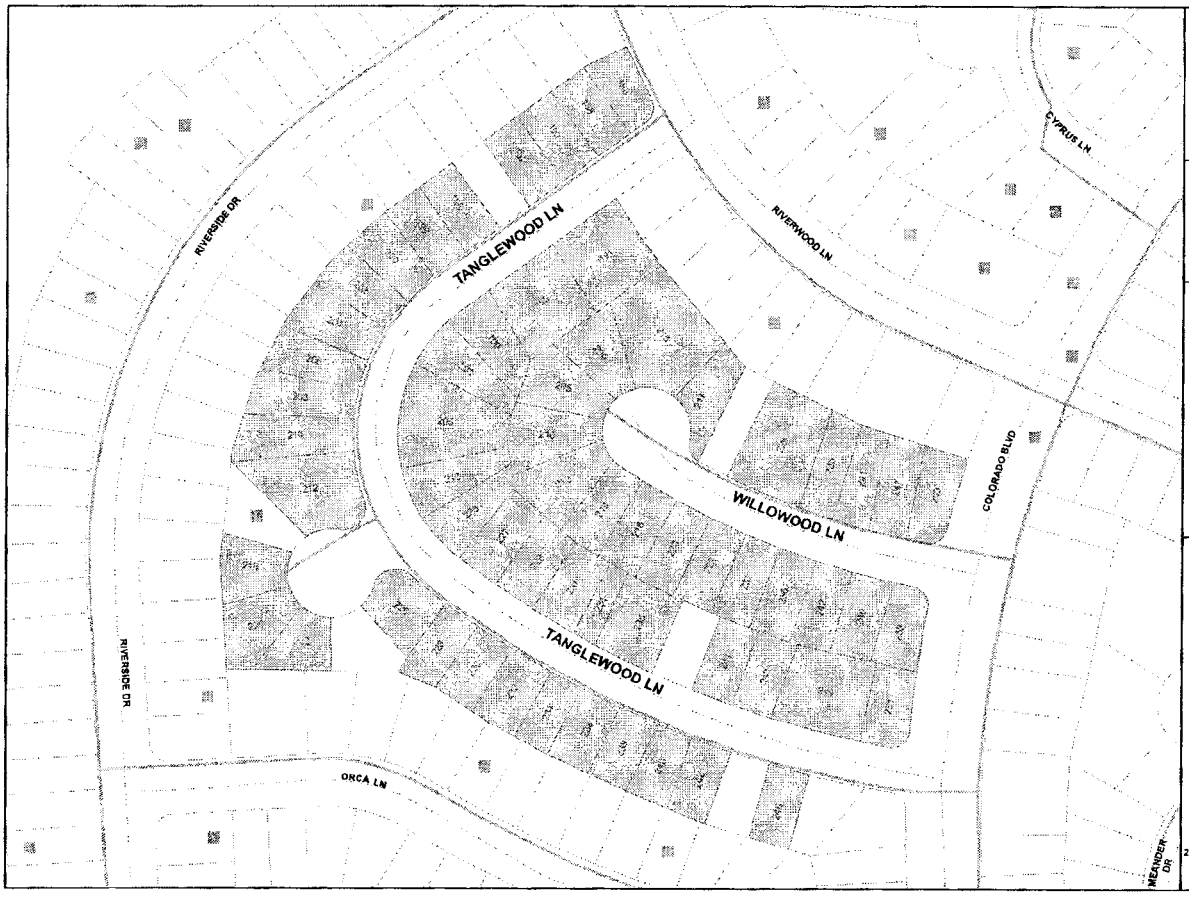
EPCOR Water 2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 S-10**	Project Location: Orca Ln

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
40	3/4" or 1" service	3,500	Contractor material and labor to replace 40 residential services on Orca Ln between Riverside Dr and Colorado Blvd.	$ 140,000
40	hour	28	Company labor for field oversight and construction management	$ 1,120
Subtotal				$ 141,120
General Overhead Rate on Labor and Capital (10%)				$ 14,112
Total Estimated Cost				**$ 155,232**



2017

Project No: S-11 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Tanglewood Ln

Project Description:

Replace 62 residential services on Tanglewood Ln and Willowood Ln between Riverside Dr and Colorado Blvd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

40 20 0 40 80 120 160
Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2017 S-11**	Project Location: Tanglewood Ln	

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
62	3/4" or 1" service	3,500	Contractor material and labor to replace 62 residential services on Tanglewood Ln and Willowood Ln between Riverside Dr and Colorado Blvd.	$ 217,000
62	hour	28	Company labor for field oversight and construction management	$ 1,736
Subtotal				$ 218,736
General Overhead Rate on Labor and Capital (10%)				$ 21,874
Total Estimated Cost				**$ 240,610**

Mohave Water District, Mohave System – PWS ID No. 08-032

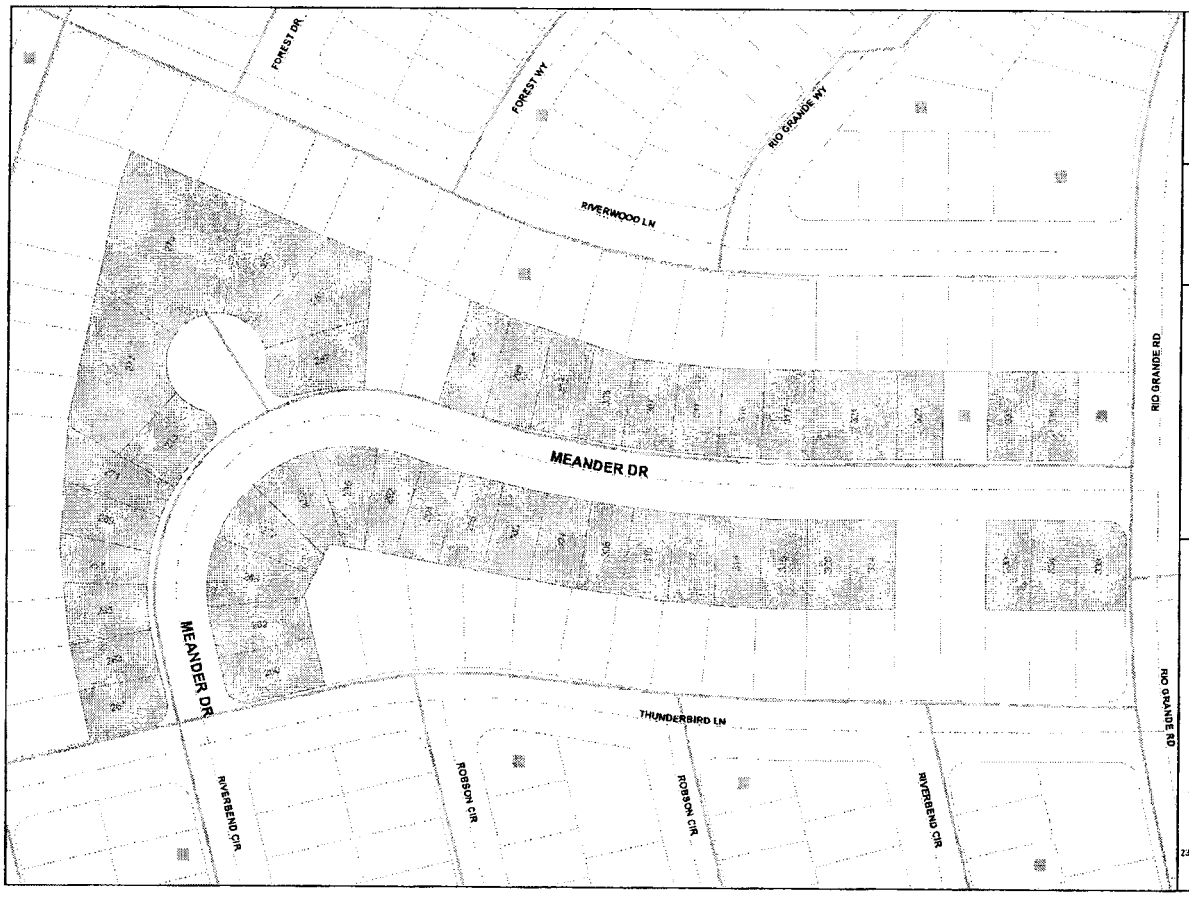
SIB PLANT TABLE 1, 1-4

2018 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-12	333	service lines	45	¾" & 1"	Copper	$3,881	Meander Ln	12/2018	n/a	$174,636	Replace 45 residential services on Meander Dr between Thunderbird Ln and Rio Grande Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-12 in Exhibit CC-1-A for more detail.

S-13	333	service lines	51	¾" & 1"	Copper	$3,881	Colorado Blvd South	12/2018	n/a	$197,921	Replace 51 residential services on Colorado Blvd between Marina Blvd and Riverwood Ln. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-13 in Exhibit CC-1-A for more detail.
S-14	333	service lines	49	¾" & 1"	Copper	$3,881	Forest Dr	12/2018	n/a	$190,159	Replace 49 residential services on Forest Dr between Riverwood Ln and Hancock Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-14 in Exhibit CC-1-A for more detail.
Total			**145**							**$562,716**	



2018

Project No: S-12 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Meander Dr

Project Description:

Replace 45 residential services on Meander Dr between Thunderbird Ln and Rio Grande Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service
- Previously Repaired or Replaced (2003-2013)
- Main

N

30 15 0 30 60 90 120
Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water

Preliminary Cost Estimate

Date Prepared: 1/31/2014

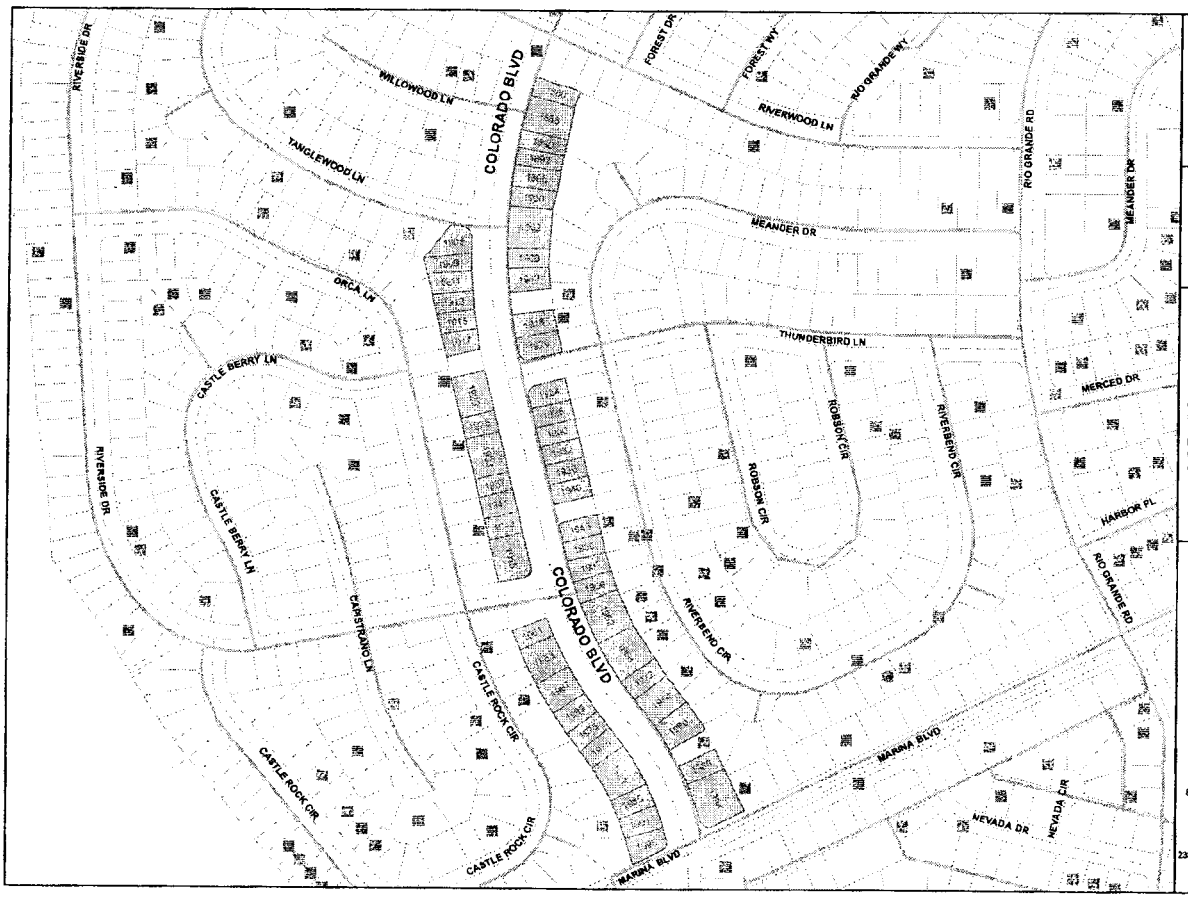
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2018 S-12**	Meander Dr

Project Description:

Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
45	3/4" or 1" service	3,500	Contractor material and labor to replace 45 residential services on Meander Dr between Thunderbird Ln and Rio Grande Rd.	$ 157,500
45	hour	28	Company labor for field oversight and construction management	$ 1,260
Subtotal				$ 158,760
General Overhead Rate on Labor and Capital (10%)				$ 15,876
Total Estimated Cost				**$ 174,636**



2018

Project No: S-13 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Colorado Blvd South

Project Description:

Replace 51 residential services on Colorado Blvd between Marina Blvd and Riverwood Ln.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

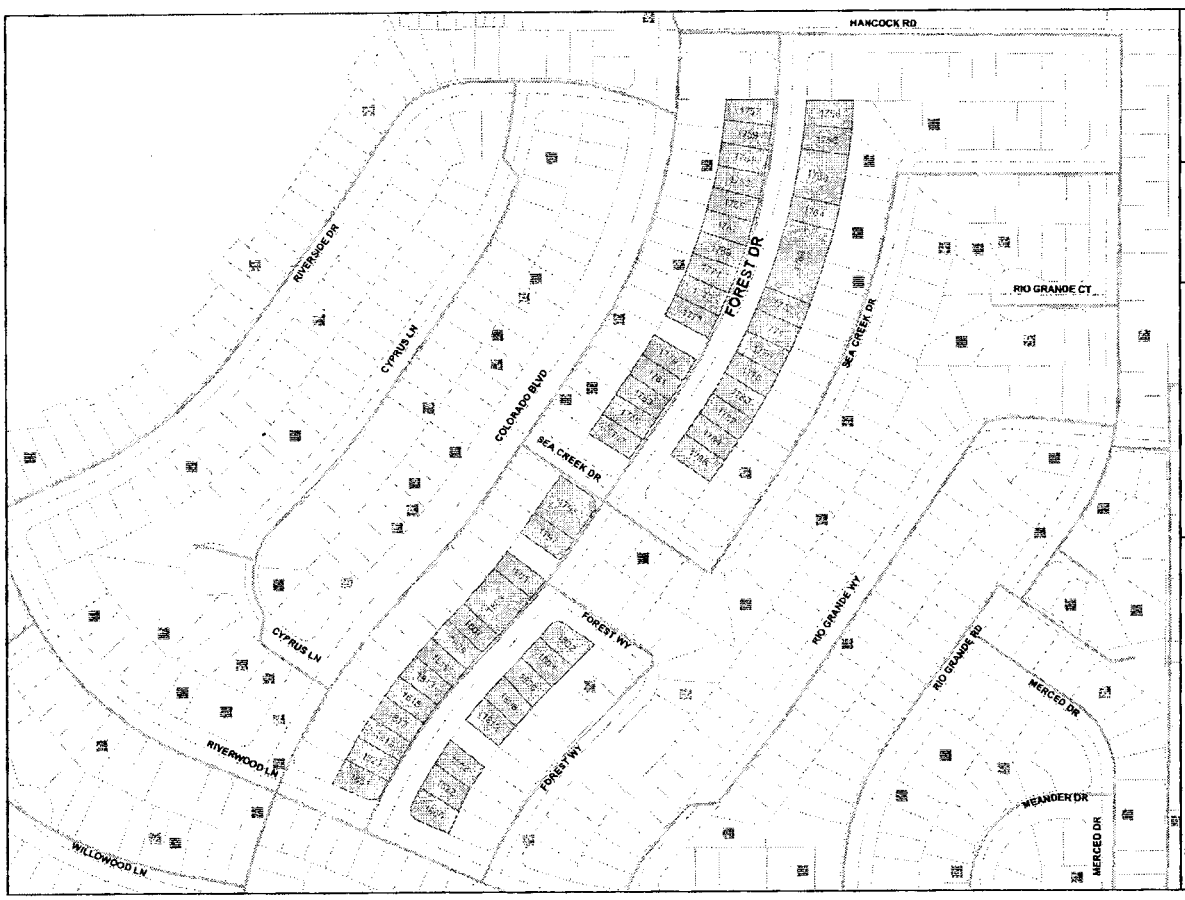
Created: 3/14/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2018 S-13**	Project Location: Colorado Blvd South	

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
51	3/4" or 1" service	3,500	Contractor material and labor to replace 51 residential services on Colorado Blvd between Marina Blvd and Riverwood Ln.	$ 178,500
51	hour	28	Company labor for field oversight and construction management	$ 1,428
Subtotal				$ 179,928
General Overhead Rate on Labor and Capital (10%)				$ 17,993
Total Estimated Cost				**$ 197,921**



2018

Project No: S-14 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Forest Dr

Project Description:

Replace 49 residential services on Forest Dr between Riverwood Ln and Hancock Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service
- Previously Repaired or Replaced (2003-2013)
- Main

N

70 35 0 70 140 210 280 Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water 2014 -

EPCOR Water Preliminary Cost Estimate			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2018 S-14**	Project Location: Forest Dr

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
49	3/4" or 1" service	3,500	Contractor material and labor to replace 49 residential services on Forest Dr between Riverwood Ln and Hancock Rd.	$ 171,500
49	hour	28	Company labor for field oversight and construction management	$ 1,372
Subtotal				$ 172,872
General Overhead Rate on Labor and Capital (10%)				$ 17,287
Total Estimated Cost				**$ 190,159**

Mohave Water District, Mohave System – PWS ID No. 08-032

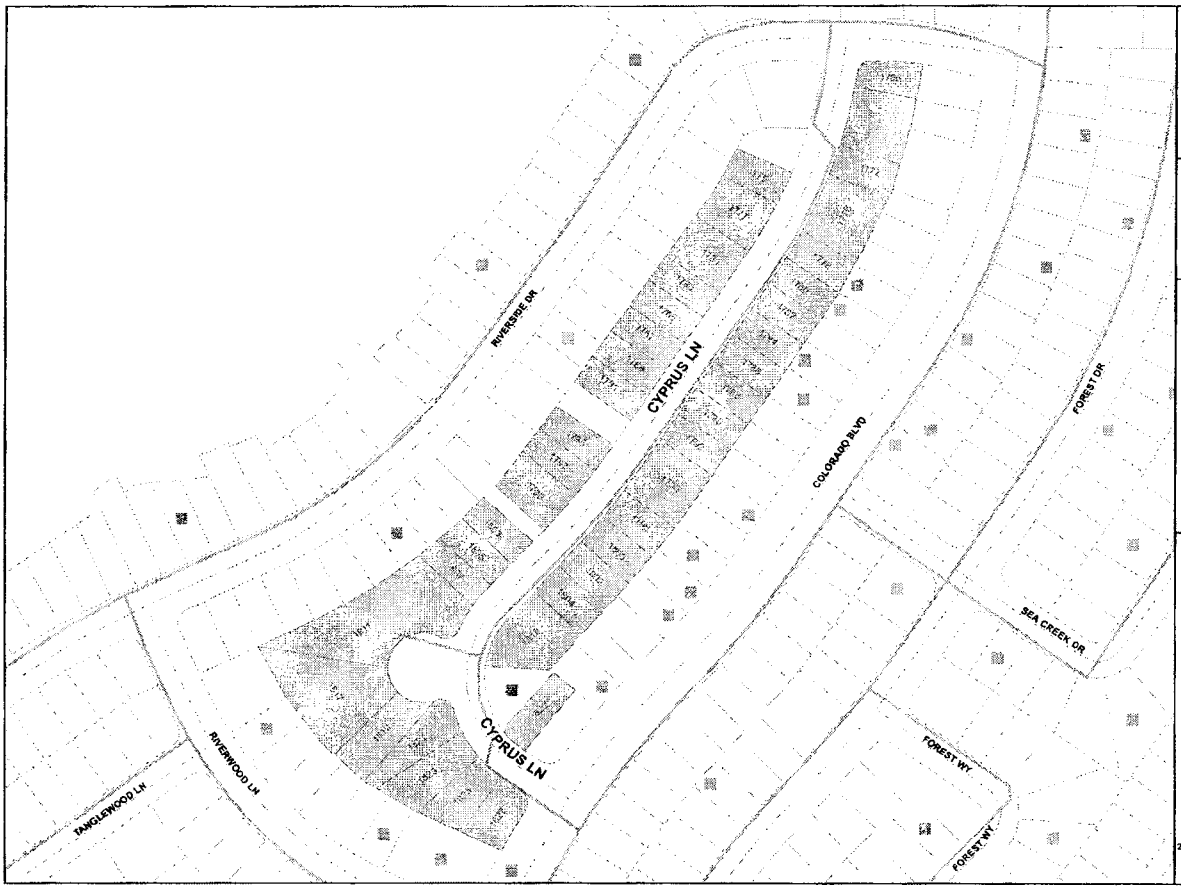
SIB PLANT TABLE 1, 1-5

2019 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-15	333	service lines	40	¾" & 1"	Copper	$3,881	Cyprus Ln	12/2019	n/a	$155,232	Replace 40 residential services on Cyprus Ln between Colorado Blvd and Riverside Dr Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-15 in Exhibit CC-1-A for more detail.

S-16	333	service lines	16	¾" & 1"	Copper	$3,881	Riverwood Ln	12/2019	n/a	$62,093	Replace 16 residential services on Riverwood Ln between Colorado Blvd and Riverside Dr. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. In the last ten years, 151 services in the River Bend area previously failed and were replaced or repaired. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-16 in Exhibit CC-1-A for more detail
S-17	333	service lines	47	¾" & 1"	Copper	$3,881	Colorado Blvd North	12/2019	n/a	$182,398	Replace 47 residential services on Colorado Blvd. between Riverwood Ln. and Hancock Rd. Many of the services are branched black poly lines (one service for two customers) that are failing at a high rate. These services are a priority for replacement because of the historical failure rate of the pipe material as well as the need to connect a single service to each customer. Replacing the services will help reduce system water loss and improve customer pressure and flow with a single service for each customer. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-17 in Exhibit CC-1-A for more detail
Total			**103**							$399,722	



2019

Project No: S-15 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Cyprus Ln

Project Description:

Replace 40 residential services on Cyprus Ln between Colorado Blvd and Riverside Dr.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

50 25 0 50 100 150 200 Feet

2355 W. Pinnacle Peak Rd.
Suite 200
Phoenix, AZ 85027

EPCOR WATER

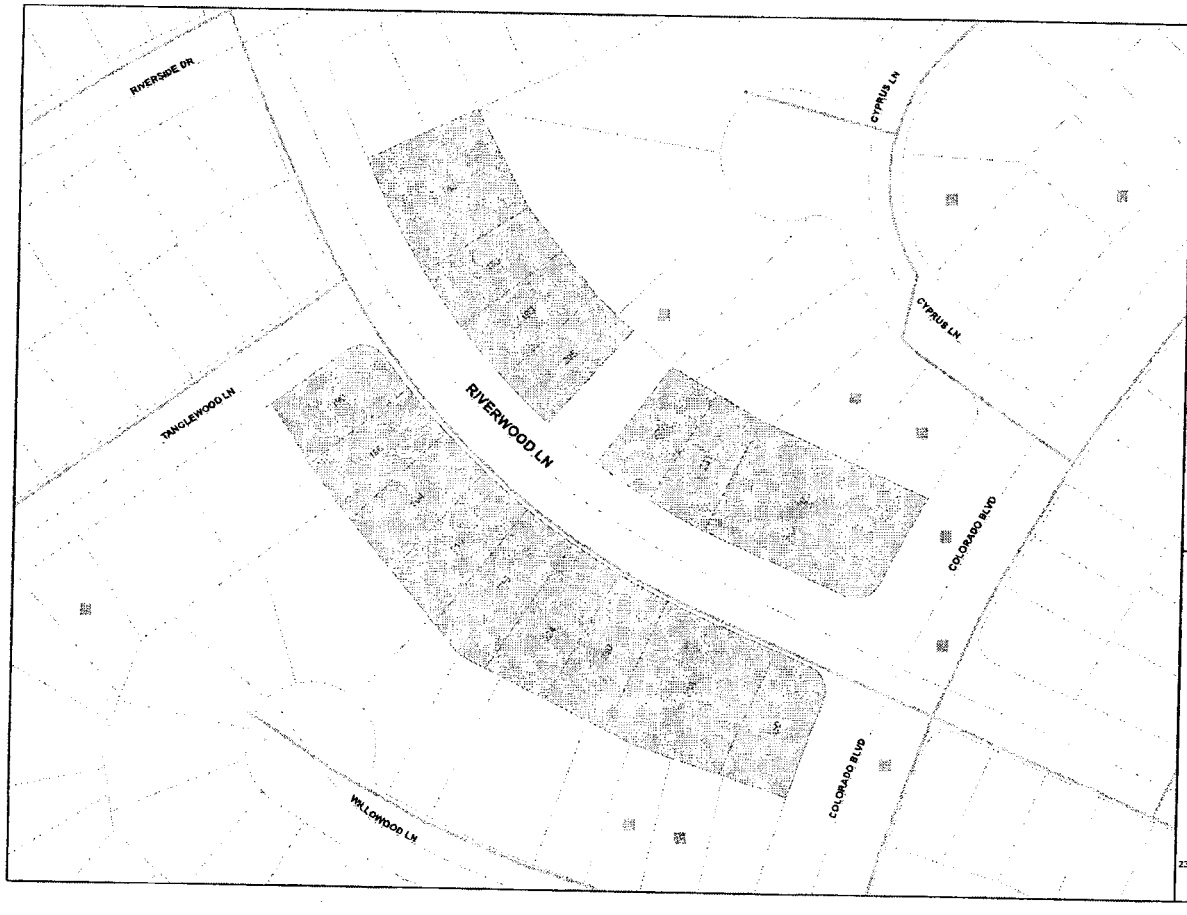
Created: 3/14/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2019 S-15**	Project Location: Cyprus Ln

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
40	3/4" or 1" service	3,500	Contractor material and labor to replace 40 residential services on Cyprus Ln between Colorado Blvd and Riverside Dr.	$ 140,000
40	hour	28	Company labor for field oversight and construction management	$ 1,120
Subtotal				$ 141,120
General Overhead Rate on Labor and Capital (10%)				$ 14,112
Total Estimated Cost				**$ 155,232**



2019

Project No: S-16 •
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Riverwood Ln

Project Description:

Replace 16 residential services on Riverwood Ln between Colorado Blvd and Riverside Dr.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

25 12.5 0 25 50 75 100 Feet

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

EPCOR WATER

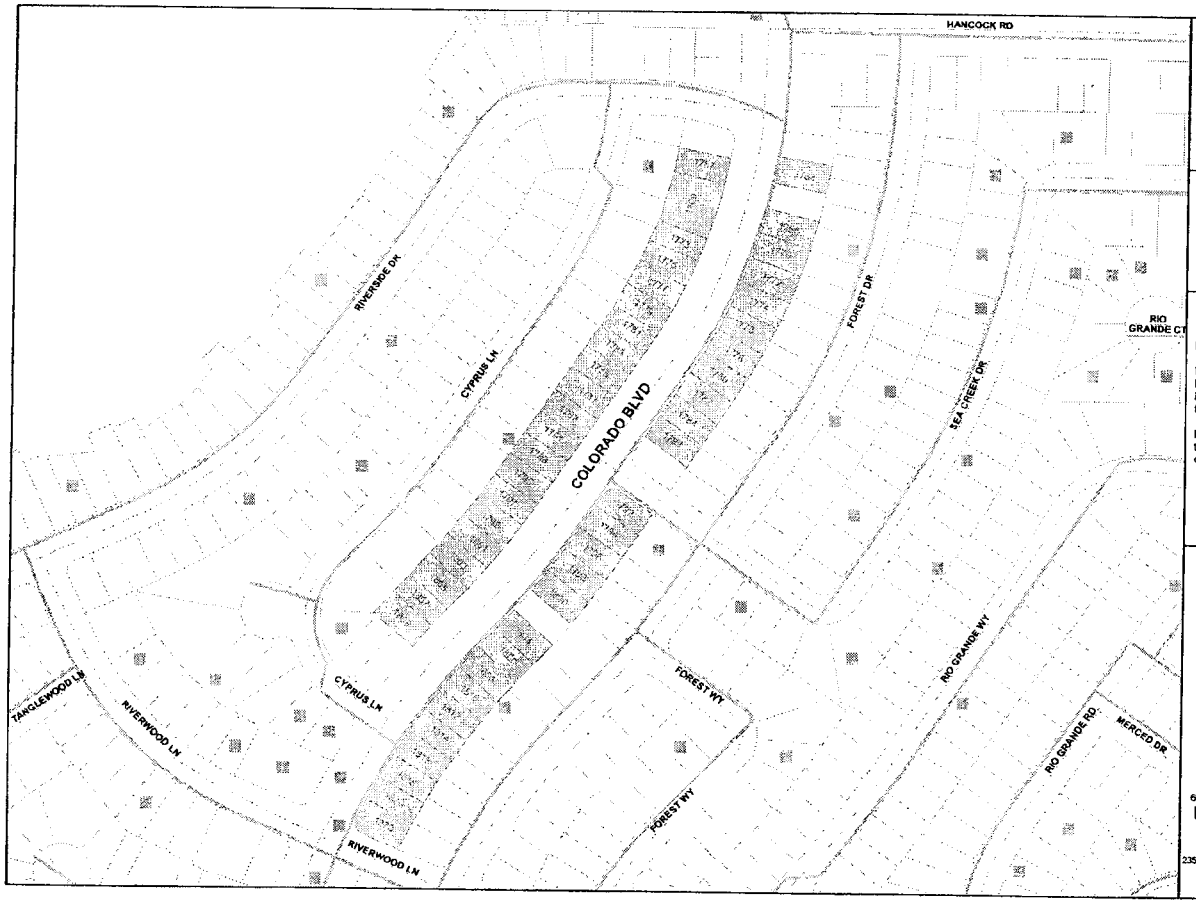
Created: 3/14/2014

EPCOR Water **Preliminary Cost Estimate**				Date Prepared: 1/31/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2019 S-16**	Project Location: Riverwood Ln	

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
16	3/4" or 1" service	3,500	Contractor material and labor to replace 16 residential services on Riverwood Ln between Colorado Blvd and Riverside Dr.	$ 56,000
16	hour	28	Company labor for field oversight and construction management	$ 448
Subtotal				$ 56,448
General Overhead Rate on Labor and Capital (10%)				$ 5,645
Total Estimated Cost				**$ 62,093**



2019

Project No: S-17 -
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Colorado Blvd North

Project Description:

Replace 47 residential serviceson Colorado Blvd between Riverwood Ln and Hancock Rd.

Existing services are branched black poly lines that are failing at a high rate. Material is inferior and a single service is needed for each customer.

In the Riverside area projects (S-6 - S-17) there have been 151 service repairs or replacements in the past ten years.

Legend

- Service to be Replaced
- Failed Service Previously Repaired or Replaced (2003-2013)
- Main

N

60 30 0 60 120 180 240 Feet

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

EPCOR WATER

Created: 3/14/2019

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 1/31/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2019 S-17**	Colorado Blvd North

Project Description:
Replace inferior branched black poly residential service lines with individual copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
47	3/4" or 1" service	3,500	Contractor material and labor to replace 47 residential services on Colorado Blvd. between Riverwood Ln and Hancock Rd.	$ 164,500
47	hour	28	Company labor for field oversight and construction management	$ 1,316
Subtotal				$ 165,816
General Overhead Rate on Labor and Capital (10%)				$ 16,582
Total Estimated Cost				**$ 182,398**

SECTION 2 – VALVES

2.1 Overview

The Mohave Water District contains about 2,800 distribution system valves. Historical data suggests that many of these valves are leaking and/or inoperable. Over one third of the valves are nearing 50 years old or more and as valves age, they are prone to deterioration and the parts begin to fail. Common failures include stripped, broken, or bent stems, leaking O-rings or packing, corrosion or cracking of the valve body, corrosion of the connecting bolts, and wear on the valve disk and seat.

2.2 Nessie Curve

As described in Section 1, a "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it, or when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

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[1] *Reinvesting in Drinking Water Infrastructure*, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

Exhibit 2-1 is the Nessie curve which was developed specifically for the valves in EPCOR's Mohave district. Exhibit 2-2 shows the same data in tabular format. The curve shows that a large investment in valve replacements should occur before 2020; in the next six years, from 2015 through 2020, approximately $4.4 million should be spent on valve replacements, or about $734,000 per year. This equates to about 155 valve replacements per year.

Exhibit 2-1 – Valve Nessie Curve

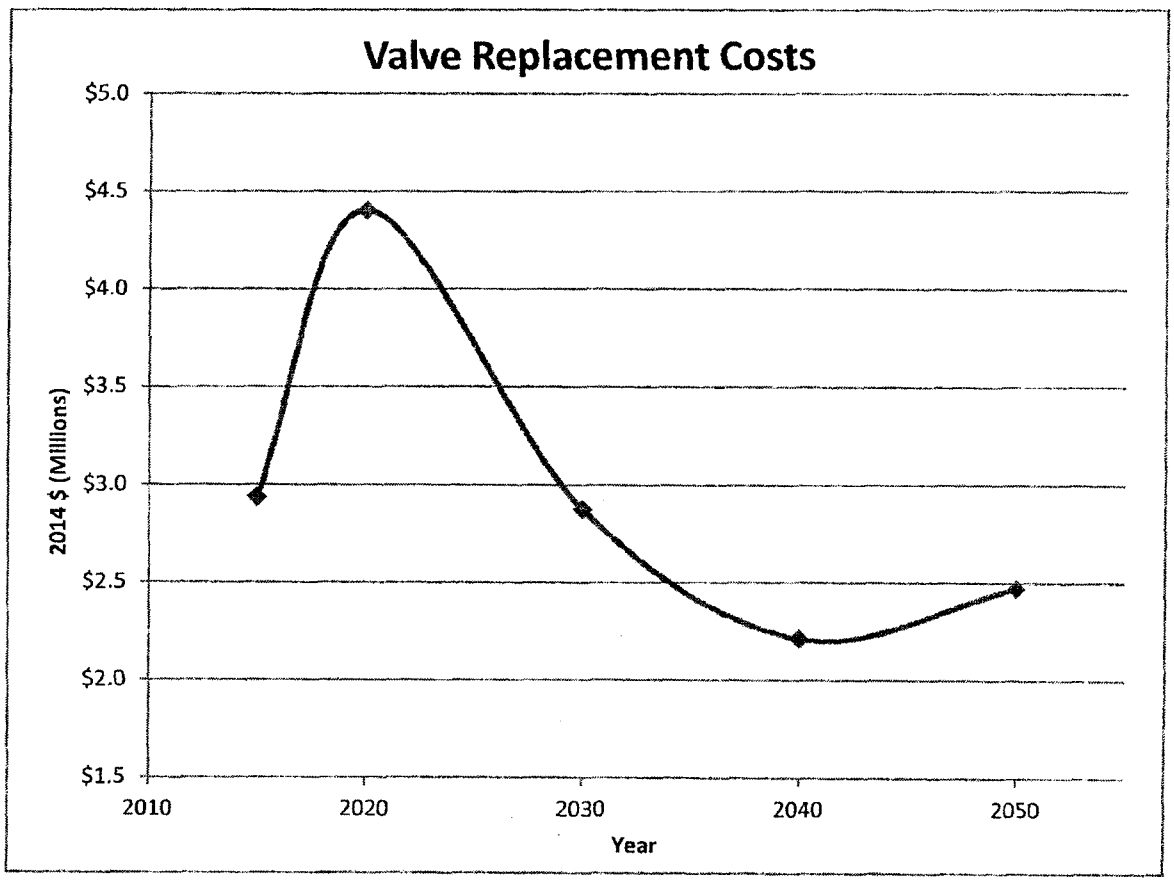


Exhibit 2-2 - Nessie Curve Table

Time Frame	Number of Valves to be Replaced	Cost to Replace Valves	Number of Valve Replacements per Year	Cost per Year
today-2020	927	$ 4,404,069	155	$ 734,012
2020-2030	605	$ 2,873,669	61	$ 287,367
2030-2040	466	$ 2,212,588	47	$ 221,259
2040-2050	520	$ 2,469,620	52	$ 246,962

2.3 Valve Replacements

Historically, the valves were tested and replaced if found broken during main break repairs, or during fire hydrant maintenance. Historical valve replacements from 2003 through 2013 are shown in the following tab, **Historical Replacement Data**, which includes data from all water systems in the District. During this time frame, 135 valves were replaced in the Mohave system, in which valves are generally 35 to 47 years old; seven were replaced in the Lake Mohave system, in which valves are generally around 39 years old; four were replaced in the Camp Mohave system, in which valves are about 17 years old; and three were replaced in the Rio Vista system, in which valves are 9 to 35 years old. There have not been any replacements in the last ten years for the Desert Foothills and the Arizona Gateway systems where the valves are 9-18 years old and 12-13 years old, respectively, but the systems will be included in the valve maintenance program.

In order to improve system reliability and reduce customer service disruption, a certain number of valves need to be tested regularly and replaced when necessary as part of a valve maintenance program. EPCOR plans to systematically test and replace valves by first targeting about 20% of the valves in the system each year for maintenance until all valves have been tested.

Although the Nessie curve analysis suggests a replacement rate of 155 valves per year is needed, the distribution system is also in need of main, service, and meter replacements. EPCOR estimates that approximately 45 failed valves will be found each year, although it is impossible to know how many valves will actually need to be replaced in each maintenance area. The investment over five years for valve replacements is estimated at $1.1 million.

The valve maintenance program is scheduled to address the Mohave system from 2015 through the first part of 2019. Then, the focus will turn to the Desert Foothills, Lake Mohave, Camp Mohave, Rio Vista, and Arizona Gateway systems, which are much smaller systems.

Valve replacement projects are described in the following tabs labeled **2015, 2016, 2017, 2018,** and **2019.** SIB Plant Table I, 2-1 through SIB Plant Table I, 2-5 provide detailed descriptions of each valve replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 2-1) through 2019 (Table I, 2-5). Each project addresses a set of valve replacements that will occur within a defined area. Each project can also be tied to a map showing the proposed valve replacements as well as any valves in the vicinity that have been replaced since 2003 (note that valve replacements that occurred prior to 2003 are not shown on these maps). A detailed cost estimate for each project is also provided.

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
2555 Via Arroyo	12/31/1967	1/1/2003	3"	MJ	
2567 Via Arroyo	12/31/1967	2/1/2003	6"	MJ	
1154 Avienda Del Sol		3/1/2003	6"	MJ	
Colorado Blvd & Marina	7/1/1967	7/1/2003	6"	MJ	
Marina Blvd & Whitewater		7/1/2003	6"	MJ	
On Coral Reef		7/1/2003	6"	MJ	(Between Artesia & Oliver)
Arena Dr & Arena Ct	9/3/1971	10/3/2003	6"	MJ	
San Juan & kingston	7/1/1967	10/26/2003	3"	MJ	(going west on San Juan)
10987 Chaparral Dr		11/6/2003	6"	MJ	
2960 Silver Creek Rd	7/1/1985	11/11/2003	6"	MJ	(West Entrance into Park)
1134 Avienda De La Golondrina		11/12/2003	3"	MJ	
2141 Colorado Blvd	7/1/1967	11/25/2003	6"	MJ	(Going west on Colorado)
349 Santa Cruz Ave	7/1/1967	1/16/2004	3"	AC	
1648 Shamrock RD	6/7/1966	3/16/2004	4"	AC	Inline going west on Quartz
1359 Quartz Ave		3/16/2004	4"	AC	Inline Between 1359 Quartz & 1650 Palma RD
1124 Sahuaro DR	7/1/1955	3/24/2004	4"	AC	Inline from Park Ln Going west on Sahuaro
1336 Ramar Rd	1/19/1966	4/14/2004	6"	AC	In front of Add Inline
2177 Rathke Dr		5/28/2004	4"	AC	Front of Add to help condie construction
2211 Paseo Del Rio		7/29/2004	6"	C-900	valve on a four way cross running north up Paseo Del Rio
Inline for Camino Ct	5/9/1980	8/20/2004	4"	PLASTIC	Camino del rio & Camino Ct
Hancock & Lakeside	8/22/1967	8/26/2004	6"	AC	Inline before 90' Running north up Lakeside,,,
1760 Colorado Blvd	7/1/1967	1/13/2005	6"	AC	Inline running west on Riverside Dr
875 Swan Dr	7/1/1967	2/10/2005	4"	ABS	Inline valve going north up newport
1934 E. Riverbend Cir	7/1/1967	2/22/2005	4"	AC	Inline
279&283 Thunderbird Ln	7/1/1967	3/2/2005	6"	AC	Inline
16-2 Well site		6/16/2005	6"		removed valve from tee coming out of booster tank
2011 Lakeside Dr	7/1/1967	7/1/2005	6"	ABS	Inline 15' passed old broken valve
2010 Bahma Dr	7/1/1967	7/1/2005	4"	ABS	inline
Zircon & Shamrock s/e Corner	1/19/1966	7/19/2005	4"	AC	inline
Miracle Mile & Sherryl DR		8/15/2005	8"		Replaced bolts on Bonet
Ramar & Church RD	4/10/1974	8/29/2005	8"	PVC	Inline for Ramar
Cresthill & Rolling Hills	9/15/1990	9/21/2005	6"	AC	Inline valve for Cresthill
361 Riverfront Dr	7/1/1980	11/17/2005	6"	AC	Inline on Riverfront
377 Church St	7/1/1980	11/30/2005	6"	AC	Inline running west on Church
Riverview & Safari		12/13/2005	3"	ABS	Inline for main on Safari
212 Riverside Dr	7/1/1967	1/5/2006	6"	AC	Inline running west on Riverside Dr
1955 Castle Rock Cir		1/5/2006	6"	AC	Inline running west on Riverside Dr
Rio & Ripple		5/11/2006	4"	ABS	Inline on Rio 5 feet from tee connecting ripple

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
Hummingbird & Newberry	7/1/1960	5/24/2006	3"	Brass Gate	Inline running west on Newberry from Hummingbird Ln Installed 3" MJ Gate
1817 Arcadia Plz	10/28/1975	8/13/2006	6"	CL-160	20 Feet from Jones Head
1509 Plata Dr	3/2/1971	10/4/2006	4"	CL-160	Inline running down back easment
Marina Prky & Joshua		10/5/2006	4"	AC	Inline on Joshua
619 Ramar Rd	3/17/1975	12/12/2006	8"	CL-160	Inline running west on Ramar
Riverview & Hermosa	7/1/1967	1/5/2007	4"		inline behind Hermosa and Burmuda
Riverview & Balboa	7/1/1967	1/16/2007	4"		Inlione tieing into 8" on Balboa
2581 Valley Vista		3/13/2007	6"		Inline
2218 Riverview Way	7/1/1967	7/9/2007	3"		Inline
2029 Gregg Ln	7/1/1967	12/18/2007	3"		Inline Behind Mobile
2111 Rio Grande Rd	7/1/1967	3/5/2008	3"		
1724 Arena Dr	3/2/1971	3/12/2008	8"		
Langford & Gemstone	4/28/1972	1/9/2009	6"		
Trane & Wilson	6/23/1968	2/17/2009	4"		
765 Morro Dr	7/1/1967	6/4/2009	3"		
Langford & Citrus	4/28/1972	6/18/2009	8"		
Malibu Two valves		9/30/2009	3", 3"		
2076 Del Rey Dr	7/1/1967	12/30/2009	3"		
Via Arroyo & Mohave Dr	5/6/1969	9/8/2010	4"		Inline running up back easement on Golf Course from Mohave Dr
2364 Merrill ave	7/1/1982	10/28/2010	6"		inline going to their 4" meter
1817 Bluebonnet Blvd	7/1/1959	1/6/2011	6"		Replace valve and move to roadway to get out back easement
1849 Bluebonnet Blvd	12/13/1977	1/6/2011	6"		Replaced valve and move to roadway to get out back easement
1792 Bluebonnet Blvd	7/1/1959	1/20/2011	4"		Replaced valve and move to roadway to get out back easement
1326 Terrace Dr	6/23/1968	4/18/2011	4"		a new valve was installed to minimize shutdown area
1325 Baseline Rd	6/23/1968	4/18/2011	6"		a new valve was installed to minimize shutdown area
Canyon & Overlook Ln		12/10/2011	12"		, Had isloate section
1771 Arrowhead Dr	7/1/1967	12/17/2011	4"		Self inflicted- KP-RA
995 Palo Verde Dr		1/18/2012	6"		Premier installed this valve in order to isolate a smaller area
996 Palo Verde Dr	4/28/1972	1/18/2012	8"		Premier installed this valve in order to isolate a smaller area
871 Palo Verde Dr	2/5/1973	2/14/2012	6"		Premier installed this valve in order to isolate a smaller area
875 Palo Verde Dr	4/28/1972	2/14/2012	6"		Premier installed this valve in order to isolate a smaller area
Palo Verde and Turney	2/5/1973	2/14/2012	6"		Premier installed this valve in order to isolate a smaller area

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
775 Ramar Rd	2/5/1973	3/20/2012	8"		Premier installed this valve in order to isolate a smaller area
871 Ramar Rd	2/5/1973	3/20/2012	8"		Premier installed this valve in order to isolate a smaller area
1070 Mobile Ln	7/1/1955	3/21/2012	2"		
1978 Del Rey Dr		4/4/2012	3"		Installed new valve after breaking it during shut down
1980 Del Rey Dr		4/4/2012	3"		Installed new valve utilizing shut down
1732 Arriba	9/3/1971	4/10/2012	6"		Installed valve because during the shut down process for fire hydrant valve (furthest north on the east side of Arriba broke).
1923 W Robson Cir	7/1/1967	5/1/2012	4"		replaced bad valve
1932 E Robson Cir	7/1/1967	5/4/2012	4"		replaced bad valve
1934 E Riverbend Cir	7/1/1967	5/4/2012	4"		replaced frozen valve
1764 Riverside Dr	7/1/1967	5/31/2012	4"		replaced bad valve
1816 Colorado Blvd	7/1/1967	6/1/2012	4"		replaced bad valve
1770 Arriba Dr		6/20/2012	8"		replaced valve because it broke during shutdowm
2601 Via Arroyo	12/31/1964	7/18/2012	3"		replaced valve because it broke during shutdowm
871 Riverfront Dr	2/5/1973	8/29/2012	8"		replaced valve to isolate a smaller area
875 Riverfront Dr		8/29/2012	8"		Installed valve to minimize shutdown
703 River Gardens St		8/30/2012	6"		Installed valve to minimize shutdown
1652 Yale Dr	3/17/1975	11/7/2012	6"		replaced valve to isolate a smaller area
1653 Yale Dr	3/17/1975	11/7/2012	8"		replaced valve to isolate a smaller area
1671 Yale Dr		11/7/2012	8"		Installed valve to minimize shutdown
1646 Yale Dr		11/7/2012	8"		Installed valve to minimize shutdown
614 Ramar Rd	3/17/1975	11/14/2012	8"		replaced valve to isolate a smaller area
615 Ramar Rd		11/14/2012	8"		Installed valve to minimize shutdown
Sea Breeze and Surf and Sands	7/1/1959	1/17/2013	3"		Replaced broken valve during main break
1677 River gardens		2/5/2013	6"		
779 Baseline Rd	2/5/1973	2/13/2013	6"		Replaced broken valve to help minimize shutdowns
871 Brill Dr	2/5/1973	2/13/2013	6"		Replaced broken valve to help minimize shutdowns
871 Baseline Rd	2/5/1973	2/13/2013	6"		Replaced broken valve to help minimize shutdowns
Langford and Brill	12/29/1980	2/13/2013	8"		Replaced broken valve to help minimize shutdowns

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
Langford and Baseline		2/13/2013	8"		
Riverside and Castle Rock	7/1/1967	2/26/2013	6"		Replaced broken valve to help minimize shutdowns
619 Ramar Rd	3/17/1975	3/14/2013	8"		Replaced broken valve to help minimize shutdowns
645 Church St		3/14/2013	8"		
1997 Sea breeze Ln	7/1/1959	3/27/2013	3"		Replaced broken valve to help minimize shutdowns
645 Church St	3/17/1975	3/27/2013	6"		Replaced broken valve to help minimize shutdowns
653 Church St	3/17/1975	3/28/2013	6"		Replaced broken valve to help minimize shutdowns
748 Church St	2/5/1973	3/28/2013	6"		Replaced broken valve to help minimize shutdowns
749 Church St		3/28/2013	6"		
740 Malibu Dr	7/1/1967	4/10/2013	4"		Replaced broken valve that was broke during exercising
Cyprus and Colorado	7/1/1967	4/16/2013	4"		Replace broken vavle to help minimize shutdowns
1653 Lynn Dr	3/17/1975	4/17/2013	6"		Replaced broken valve to help minimize shutdowns
Bluebonnet & Church	3/17/1975	4/17/2013	6"		Replaced broken val
Dean & Church	3/17/1975	4/17/2013	6"		Replaced broken valve to help minimize shutdowns
W Church & Lynn		4/17/2013	6"		
2856 Country Club Dr	5/9/1980	5/9/2013	4"		Replaced broken valve to help minimize shutdowns
Country Club& Country Club Way	5/9/1980	5/9/2013	6"		Replaced broken valve to help minimize shutdowns
627 Holly St	4/10/1974	5/22/2013	6"		Replaced broken valve to help minimize shutdowns
627 Citrus St	4/10/1974	5/22/2013	6"		Replaced broken valve to help minimize shutdowns
637 Citrus St	3/17/1975	5/22/2013	6"		Replaced broken valve to help minimize shutdowns
Citrus & Church North	4/10/1974	5/22/2013	6"		Replaced broken valve to help minimize shutdowns
Citrus & Church W		5/22/2013	6"		
Citrus & Church E		5/22/2013	6"		
1397 Mirada Dr	5/7/1969	5/30/2013	4"		Replaced a valve that was broken closed
1172 Riverfront Dr		5/30/2013	6"		
1327 Church St	5/7/1969	5/30/2013	4"		Replaced broken valve to help minimize shutdowns
1397 Church St	5/7/1969	5/30/2013	4"		Replaced broken valve to help minimize shutdowns
2027 Colorado Blvd	7/1/1967	6/18/2013	6"		Replaced broken valve to help minimize shutdowns
2161 Whitewater Dr	7/1/1967	6/18/2013	4"		Replaced broken valve to help minimize shutdowns
1111 Paseo Pescador	7/1/1969	7/1/2013	3"		Replaced broken valve that broken after hours

MOHAVE DISTRICT, MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
Calle de Mercado&Valley Vista	7/1/1985	7/8/2013	8"		Replaced broken valve to help minimize shutdowns
Ramar and Gold Rush		7/8/2013	6"		
Gold Rush East in wash		7/8/2013	8"		
Gold Rush North		7/8/2013	8"		
Gold Rush South		7/8/2013	8"		
168 Palm Ln	7/1/1972	7/18/2013	2"		Replaced broken valve to help minimize shutdowns
6th st & Hacienda lp	1/10/1972	7/18/2013	4"		Replaced broken valve that was broke and leaking

MOHAVE DISTRICT, RIO VISTA WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

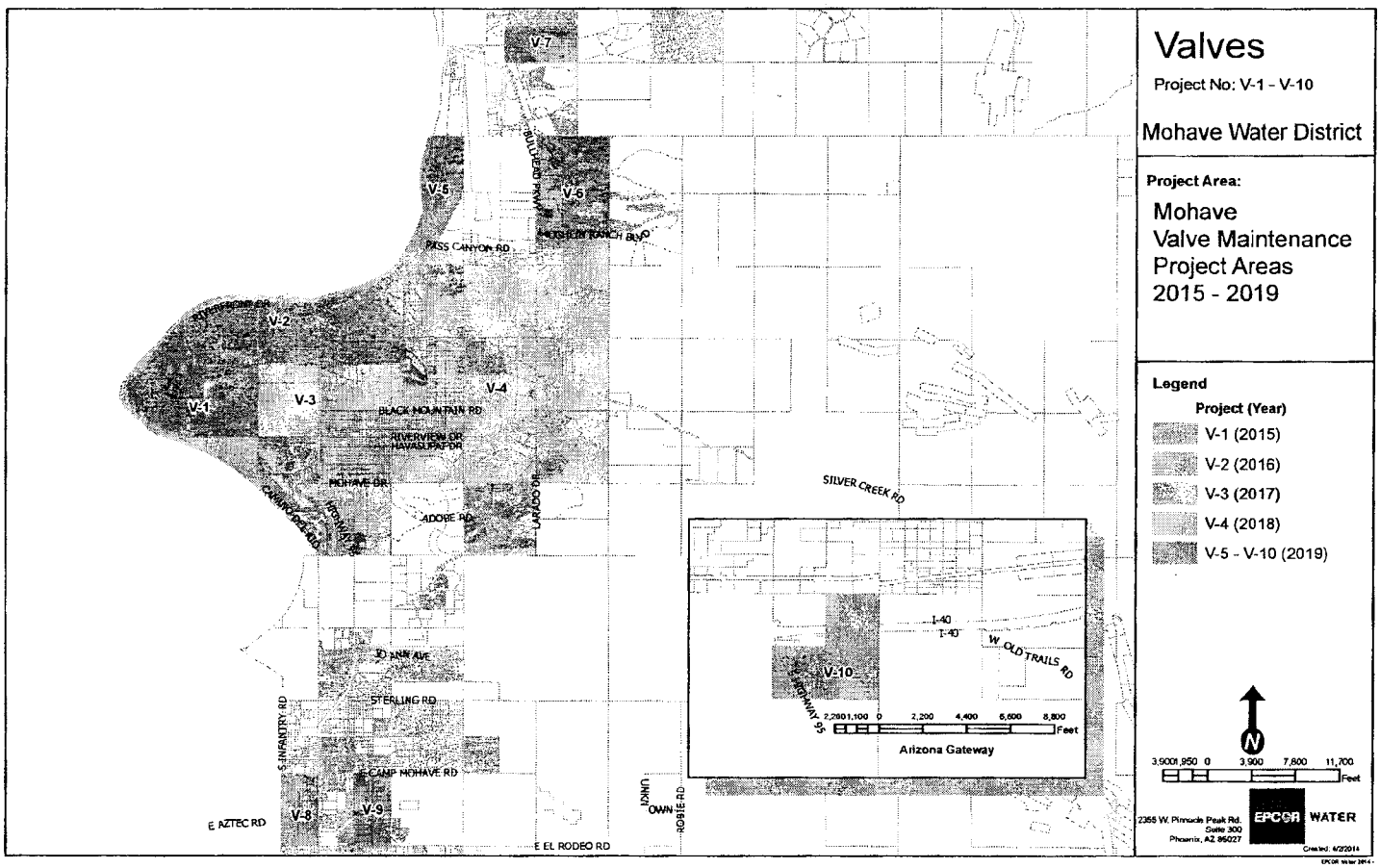
ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
El Rodeo & El Ranchero	7/1/1979	2/15/2006	6"	AC	Inline running west on El Rodeo to Calle Del Media
1920 El Rodeo Rd		9/25/2008	3"		Replaced with 2" Gate on 2" line
1800 Clubhouse Dr		2/2/2007	8"		Inline at end of complex

MOHAVE DISTRICT, LAKE MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
665 Hickory St	7/1/1975	1/24/2013	4"		replaced valve to minimize shutdown
3123 Larkwood Ave		1/24/2013	4"		
3163 Larkwood Ave	7/1/1975	1/24/2013	4"		
3013 Hickory St		3/4/2006	4"	CL-160	10 Feet from Blow off
Sycamore and Mullberry	7/1/1975	1/24/2013	4"		replaced valve to minimize shutdown
3085 Oak Pl		1/24/2013	4"		
Oak & Locust	7/1/1975	5/18/2006	6"	CL-160	Inline running north on Oak

MOHAVE DISTRICT, CAMP MOHAVE WATER SYSTEM - VALVE REPLACEMENTS 2003-2013

ADDRESS	INSTALL DATE	REPLACE DATE	SIZE	MATERIAL	NOTES
Andrew and Camp Mohave	7/1/1958	4/18/2013	4"		Replaced broken valve to help minimize shutdowns
4747 Hwy#95		6/25/2013	10"		Replaced broken valve that broke during flushing
Sierra & Lariet Loop	7/1/1958	10/24/2008	4"		
Camp Mohave and Patina	7/1/1958	4/18/2013	4"		Replaced broken valve to help minimize shutdowns


Valves
Project No: V-1 - V-10
Mohave Water District
Project Area:
Mohave
Valve Maintenance
Project Areas
2015 - 2019
Legend
Project (Year)
V-1 (2015)
V-2 (2016)
V-3 (2017)
V-4 (2018)
V-5 - V-10 (2019)
V-1
V-2
V-3
V-4
V-5
V-6
V-7
V-8
V-9
V-10
PASS CANYON RD
BLACK MOUNTAIN RD
RIVERVIEW DR
HAVASUPAI DR
MOHAVE DR
ADOBE RD
LARADO DR
SILVER CREEK RD
JO ANN AVE
STERLING RD
CAMP MOHAVE RD
S INFANTRY RD
E AZTEC RD
E EL RODEO RD
ROBIE RD
I-40
W OLD TRAILS RD
Arizona Gateway
Feet
N
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER

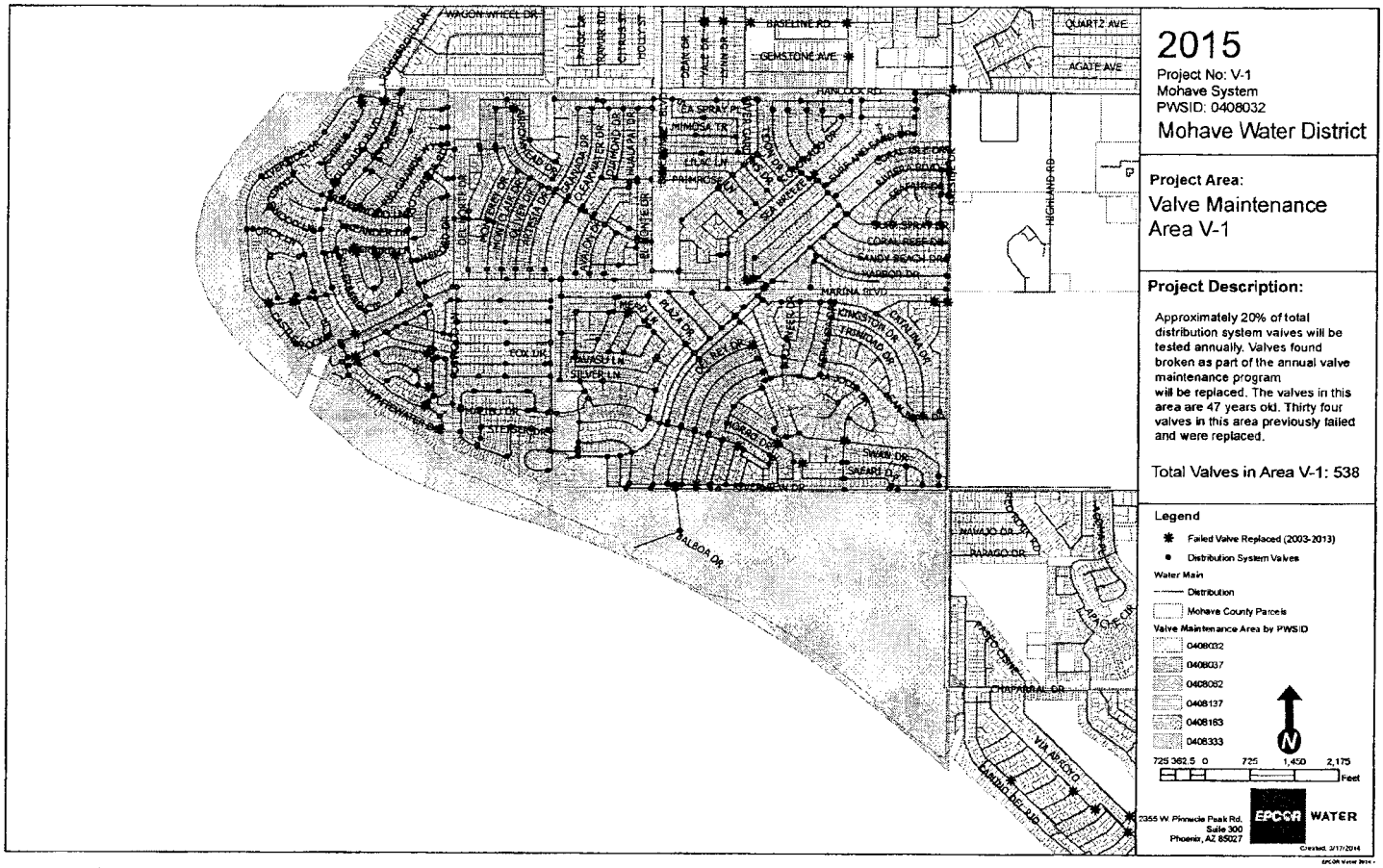
Mohave Water District, Mohave System – PWS ID No. 08032

SIB PLANT TABLE 1, 2-1

2015 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	46	22-4" 19-6" 4-8" 1-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area bounded by the Colorado River on the west, Hancock Rd on the north, and Lakeside Dr on the east	12/2015	n/a	$212,819	Replace 22-4", 19-6", 4-8", and 1-12" (estimated, 46 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 47 years old. Thirty-four valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-1 in Exhibit CC-1-A for more detail.
Total			46							**$212,819**	



2015

Project No: V-1
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:
Valve Maintenance Area V-1

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 47 years old. Thirty four valves in this area previously failed and were replaced.

Total Valves in Area V-1: 538

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main
- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID
- 0408032
- 0408037
- 0408082
- 0408137
- 0408183
- 0408333

N

725 362.5 0 725 1,450 2,175 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2015 V-1**	Area bounded by Hancock Rd, Lakeside Dr, and the Colorado River

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
22	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-1.	$ 88,000
19	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-1.	$ 79,800
4	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-1.	$ 18,800
1	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-1.	$ 5,500
				$ -
22	hour	28	Company labor for field oversight and construction management (4" valves)	$ 616
19	hour	28	Company labor for field oversight and construction management (6" valves)	$ 532
4	hour	28	Company labor for field oversight and construction management (8" valves)	$ 112
4	hour	28	Company labor for field oversight and construction management (12" valve)	$ 112
Subtotal				$ 193,472
General Overhead Rate on Labor and Capital (10%)				$ 19,347
Total Estimated Cost				**$ 212,819**

*Company labor includes the salary for one employee at a rate of $28/hour for one hour with the exception of 12" valves, which require one employee for four hours.

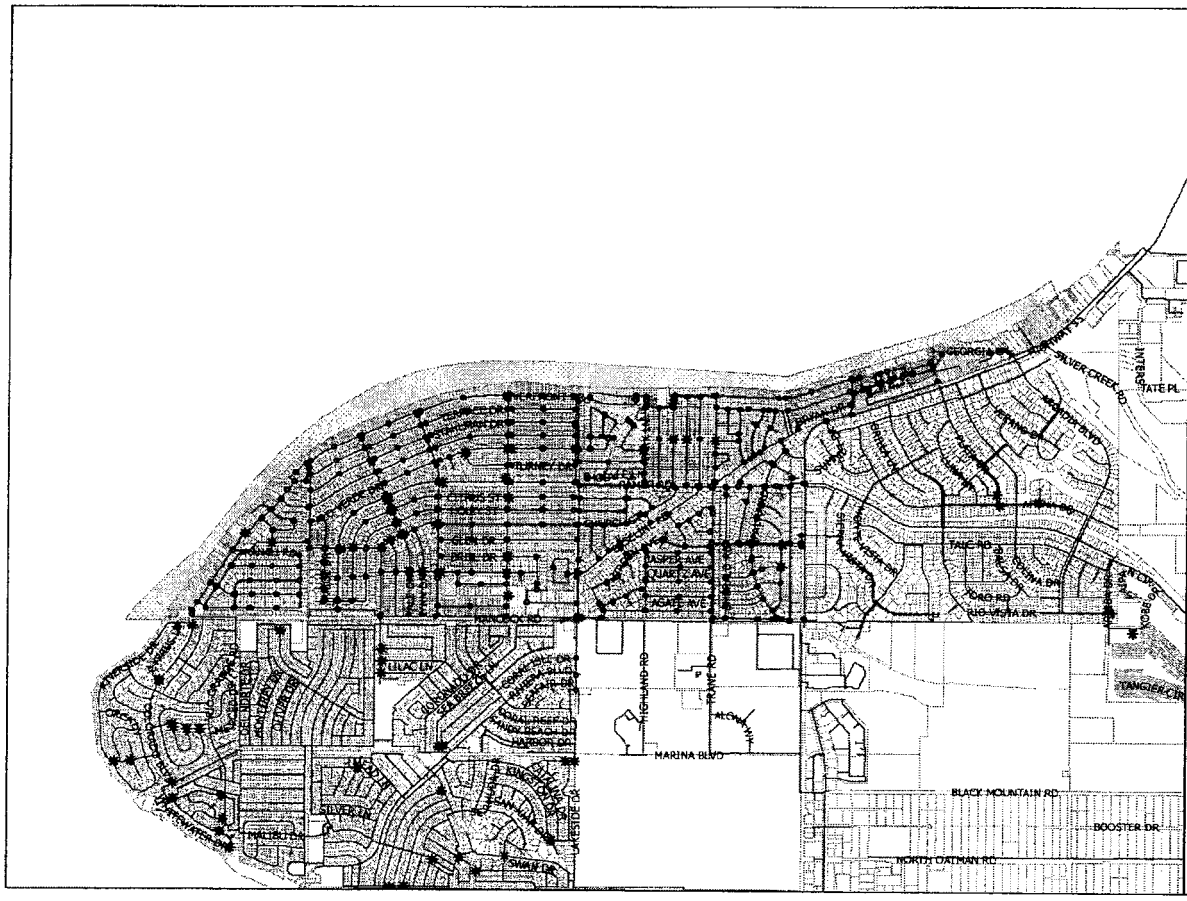
Mohave Water District, Mohave System – PWS ID No. 08032

SIB PLANT TABLE I, 2-2

2016 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-2	331	gate valves	46	11-4" 26-6" 8-8" 1-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area bounded by the Colorado River on the west, Hancock Rd on the south, and Hwy 95 and Fletcher Ln on the east	12/2016	n/a	$217,439	Replace 11-4", 26-6", 8-8", and 1-12" (estimated, 46 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 35 to 45 years old. Thirty-eight valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-2 in Exhibit CC-1-A for more detail.
Total			46							**$217,439**	



2016

Project No: V-2
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Valve Maintenance Area V-2

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 35 to 45 years old. Thirty eight valves in this area previously failed and were replaced.

Total Valves in Area V-2: 558

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main

- Distribution
- Mohave County Parcels

Valve Maintenance Area by PWSID

- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

1,100 550 0 1,100 2,200 3,300 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2016 V-2**	Area bounded by the Colorado River, Hancock Rd, Hwy 95, and Flethcher Ln

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
11	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-2.	$ 44,000
26	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-2.	$ 109,200
8	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-2.	$ 37,600
1	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-2.	$ 5,500
				$ -
11	hour	28	Company labor for field oversight and construction management (4" valves)	$ 308
26	hour	28	Company labor for field oversight and construction management (6" valves)	$ 728
8	hour	28	Company labor for field oversight and construction management (8" valves)	$ 224
4	hour	28	Company labor for field oversight and construction management (12" valve)	$ 112
Subtotal				$ 197,672
General Overhead Rate on Labor and Capital (10%)				$ 19,767
Total Estimated Cost				**$ 217,439**

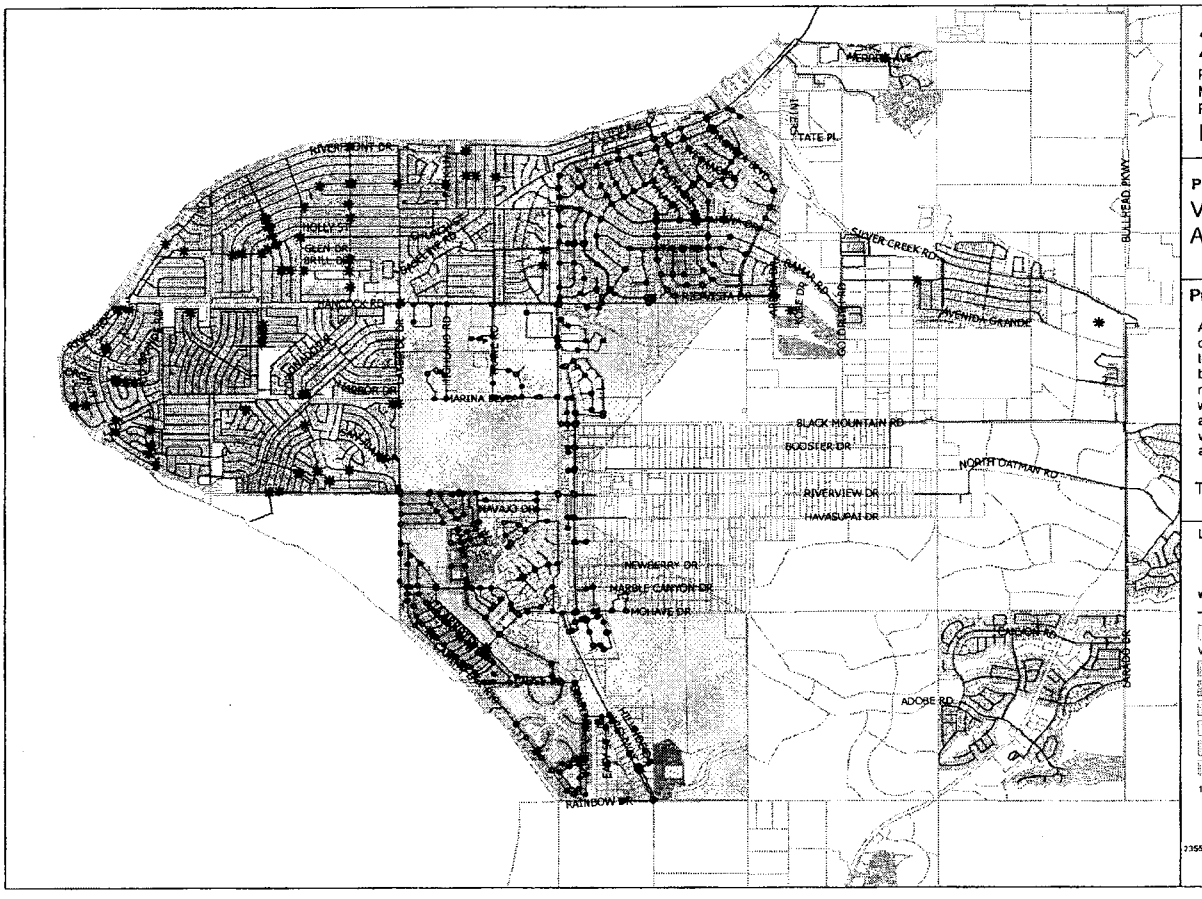
Mohave Water District, Mohave System – PWS ID No. 08032

SIB PLANT TABLE I, 2-3

2017 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diamete r/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-3	331	gate valves	46	8-4" 23-6" 10-8" 5-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area bounded by Camino Del Rio and Lakeside Dr on the west, Hancock Rd on the north, Hwy 95 on the east, and Rainbow Dr on the south; also the area bounded by Hwy 95 on the west and north, Arcadia Blvd on the east, and Rio Vista Dr on the south	12/2017	n/a	$225,289	Replace 8-4", 23-6", 10-8", and 5-12" (estimated, 46 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 43 to 47 years old. Thirteen valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-3 in Exhibit CC-1-A for more detail.
Total			**46**							**$225,289**	



2017

Project No: V-3
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:
Valve Maintenance Area V-3

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 43 to 47 years old. Thirteen valves in this area previously failed and were replaced.

Total Valves in Area V-3: 587

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main
- Distribution
- Mohave County Parcels

Valve Maintenance Area by PWSID
- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

1,500 750 0 1,500 3,000 4,500 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: 2017 V-3	Project Location: Area east of Lakeside and west of the Arcadia Blvd alignment

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-3.	$ 32,000
23	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-3.	$ 96,600
10	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-3.	$ 47,000
5	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-3.	$ 27,500
				$ -
8	hour	28	Company labor for field oversight and construction management (4" valves)	$ 224
23	hour	28	Company labor for field oversight and construction management (6" valves)	$ 644
10	hour	28	Company labor for field oversight and construction management (8" valves)	$ 280
20	hour	28	Company labor for field oversight and construction management (12" valves)	$ 560
Subtotal				$ 204,808
General Overhead Rate on Labor and Capital (10%)				$ 20,481
Total Estimated Cost				**$ 225,289**

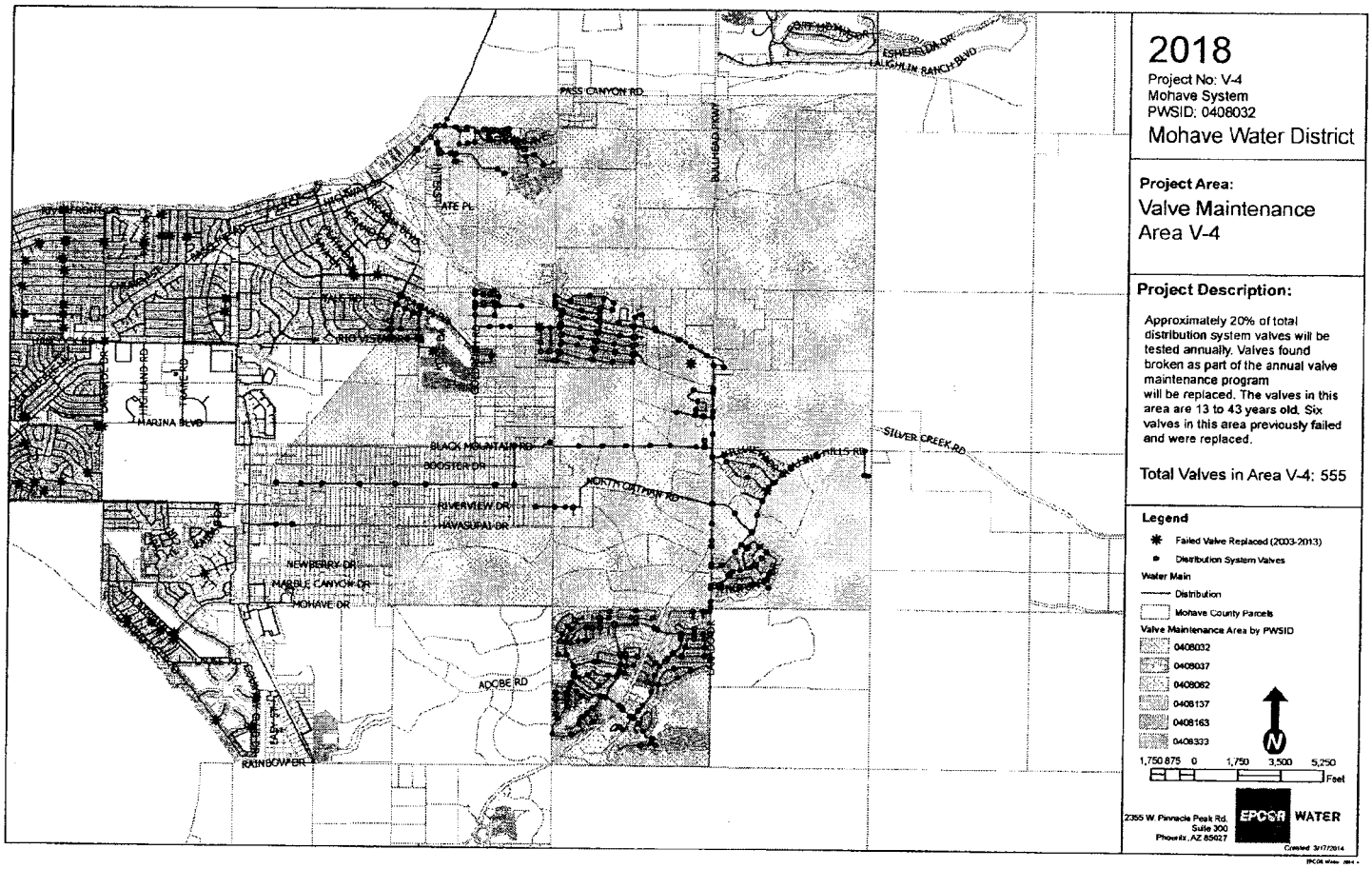
Mohave Water District, Mohave System – PWS ID No. 08032

SIB PLANT TABLE I, 2-4

2018 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-4	331	gate valves	45	1-4" 17-6" 20-8" 2-10" 5-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 10"-$5,641 12"-$6,173	Area east of Arcadia Blvd and Hwy 95 between the Pass Canyon Rd and Rainbow Dr	12/2018	n/a	$229,658	Replace 1-4", 17-6", 20-8", 2-10", and 5-12" (estimated, 45 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced The valves in this area are 13 to 43 years old. Six valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-4 in Exhibit CC-1-A for more detail.
Total			45							$229,658	



2018

Project No: V-4
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Valve Maintenance Area V-4

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 13 to 43 years old. Six valves in this area previously failed and were replaced.

Total Valves in Area V-4: 555

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main

- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID

- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

N

1,750 875 0 1,750 3,500 5,250 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Mohave System	Project Year and Number: **2018 V-4**	Project Location: Area east of Arcadia Blvd and Hwy 95 between the Pass Canyon Rd and Rainbow Dr	

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-4.	$ 4,000
17	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-4.	$ 71,400
20	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-4.	$ 94,000
2	10" Valve	5100	Contractor material and labor to replace 10" valves in Area V-4.	$ 10,200
5	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-4.	$ 27,500
1	hour	28	Company labor for field oversight and construction management (4" valves)	$ 28
17	hour	28	Company labor for field oversight and construction management (6" valves)	$ 476
20	hour	28	Company labor for field oversight and construction management (8" valves)	$ 560
2	hour	28	Company labor for field oversight and construction management (10" valves)	$ 56
20	hour	28	Company labor for field oversight and construction management (12" valves)	$ 560
Subtotal				$ 208,780
General Overhead Rate on Labor and Capital (10%)				$ 20,878
Total Estimated Cost				$ **229,658**

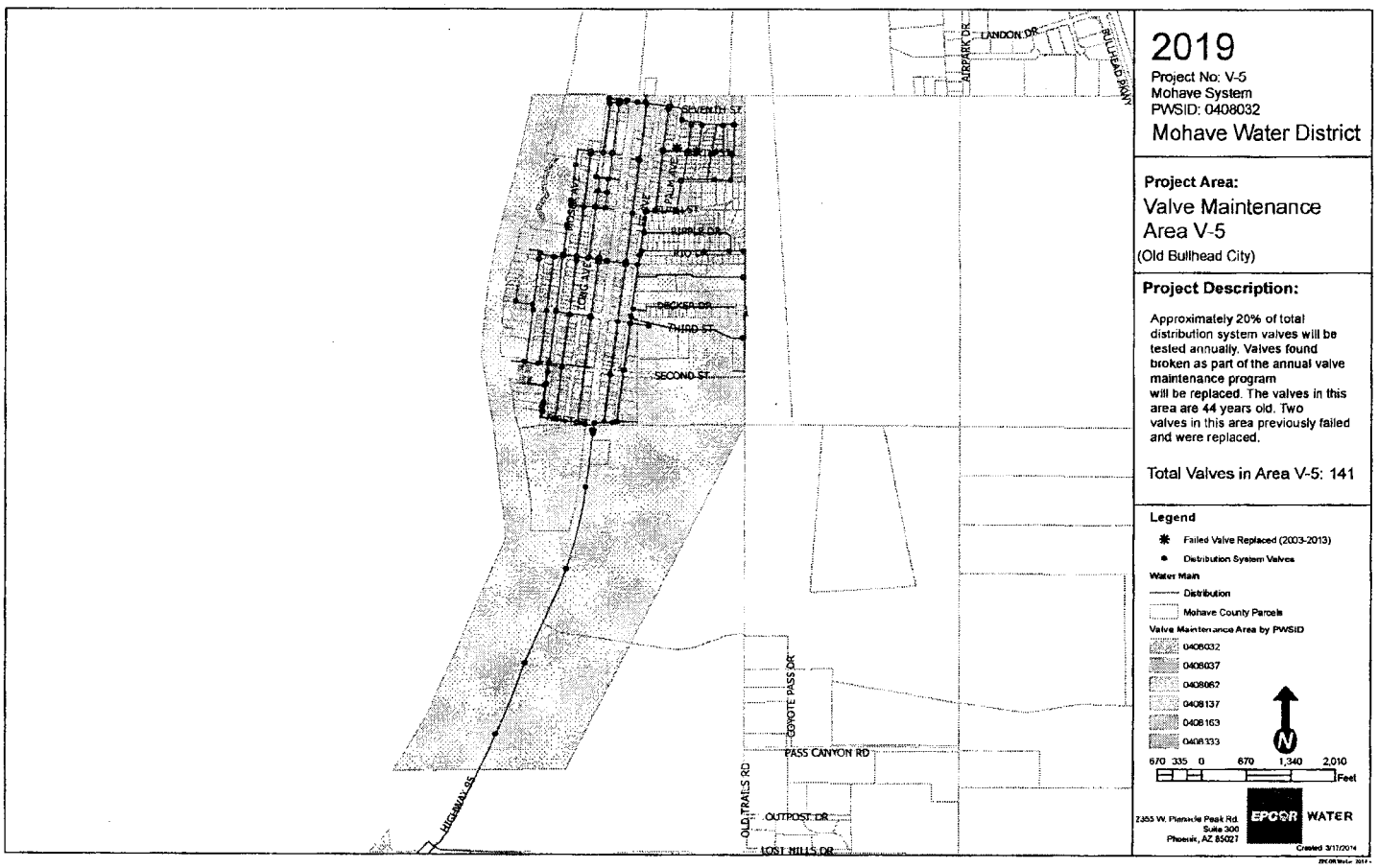
Mohave Water District, Mohave System – PWS ID No. 08032

SIB PLANT TABLE I, 2-5

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-5	331	gate valves	12	4-4" 3-6" 3-8" 2-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Old Bullhead City	12/2019	n/a	$59,624	Replace 4-4", 3-6", 3-8", and 2-12" (estimated, 12 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 44 years old. Two valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-5 in Exhibit CC-1-A for more detail.
Total			12							**$59,624**	



2019

Project No: V-5
Mohave System
PWSID: 0408032

Mohave Water District

Project Area:

Valve Maintenance Area V-5

(Old Bullhead City)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 44 years old. Two valves in this area previously failed and were replaced.

Total Valves in Area V-5: 141

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main

- Distribution
- Mohave County Parcels

Valve Maintenance Area by PWSID

- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

N

670 335 0 670 1,340 2,010 Feet

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

EPCOR WATER

Created 3/17/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Mohave System	**2019 V-5**	Old Bullhead City

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
4	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-5.	$ 16,000
3	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-5.	$ 12,600
3	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-5.	$ 14,100
2	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-5.	$ 11,000
4	hour	28	Company labor for field oversight and construction management (4" valves)	$ 112
3	hour	28	Company labor for field oversight and construction management (6" valves)	$ 84
3	hour	28	Company labor for field oversight and construction management (8" valves)	$ 84
8	hour	28	Company labor for field oversight and construction management (12" valves)	$ 224
Subtotal				$ 54,204
General Overhead Rate on Labor and Capital (10%)				$ 5,420
Total Estimated Cost				**$ 59,624**

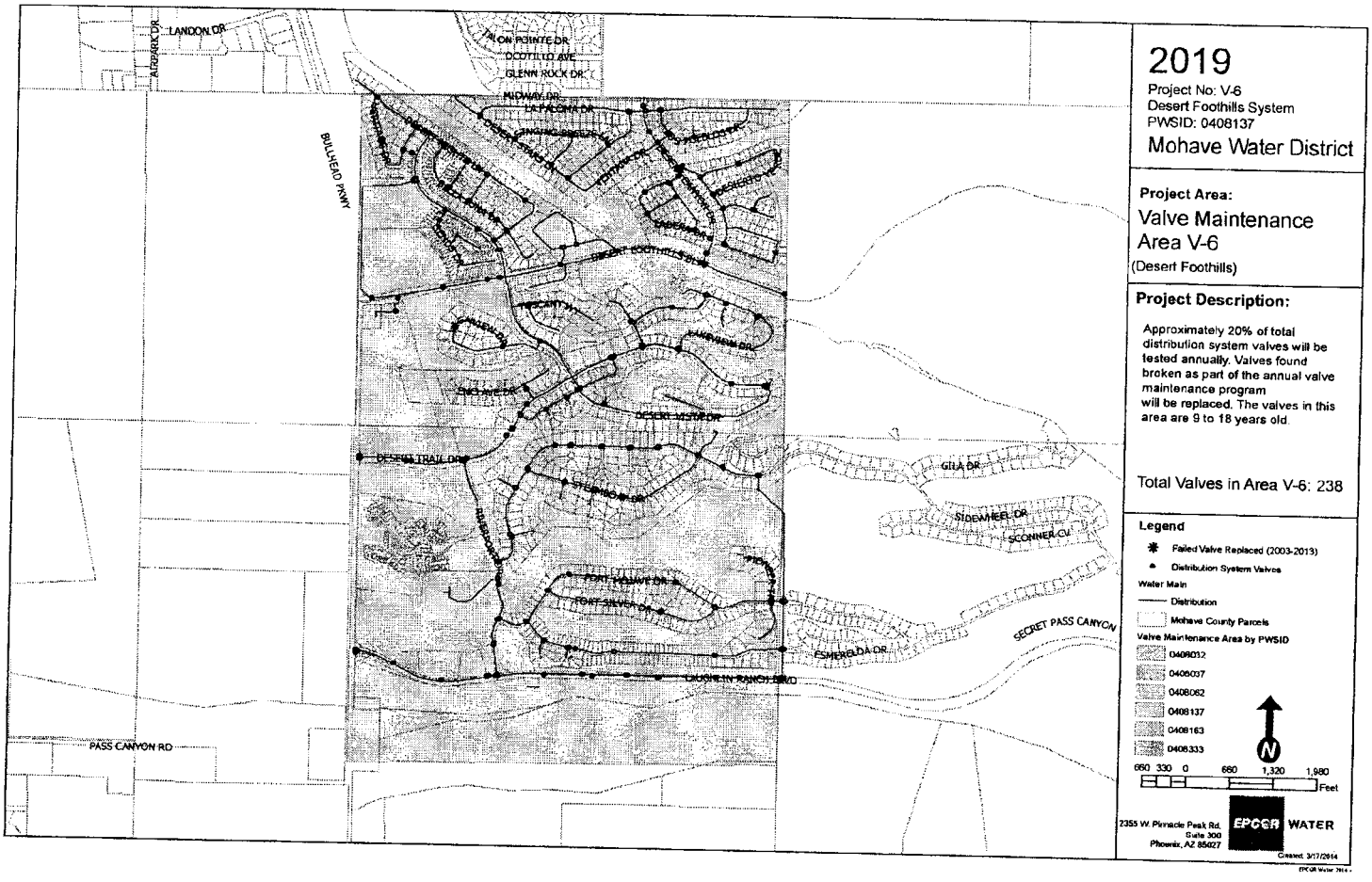
Mohave Water District, Desert Foothills System – PWS ID No. 08137

SIB PLANT TABLE 1, 2-6

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-6	331	gate valves	20	4-6" 14-8" 2-12"	cast iron with rubberized epoxy coating	6"-$4,651 8"-$5,201 12"-$6,173	Desert Foothills	12/2019	n/a	$103,761	Replace 4-6", 14-8", and 2-12" (estimated, 20 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 9 to 18 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-6 in Exhibit CC-1-A for more detail.
Total			**20**							**$103,761**	



2019

Project No: V-6
Desert Foothills System
PWSID: 0408137

Mohave Water District

Project Area:

Valve Maintenance Area V-6
(Desert Foothills)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 9 to 18 years old.

Total Valves in Area V-6: 238

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main

- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID

- 0408012
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

N

650 330 0 660 1,320 1,980 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water 2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Desert Foothills System	Project Year and Number: **2019 V-6**	Project Location: Desert Foothills

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
4	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-6.	$ 16,800
14	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-6.	$ 65,800
2	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-6.	$ 11,000
4	hour	28	Company labor for field oversight and construction management (6" valves)	$ 112
14	hour	28	Company labor for field oversight and construction management (8" valves)	$ 392
8	hour	28	Company labor for field oversight and construction management (12" valves)	$ 224
Subtotal				$ 94,328
General Overhead Rate on Labor and Capital (10%)				$ 9,433
Total Estimated Cost				**$ 103,761**

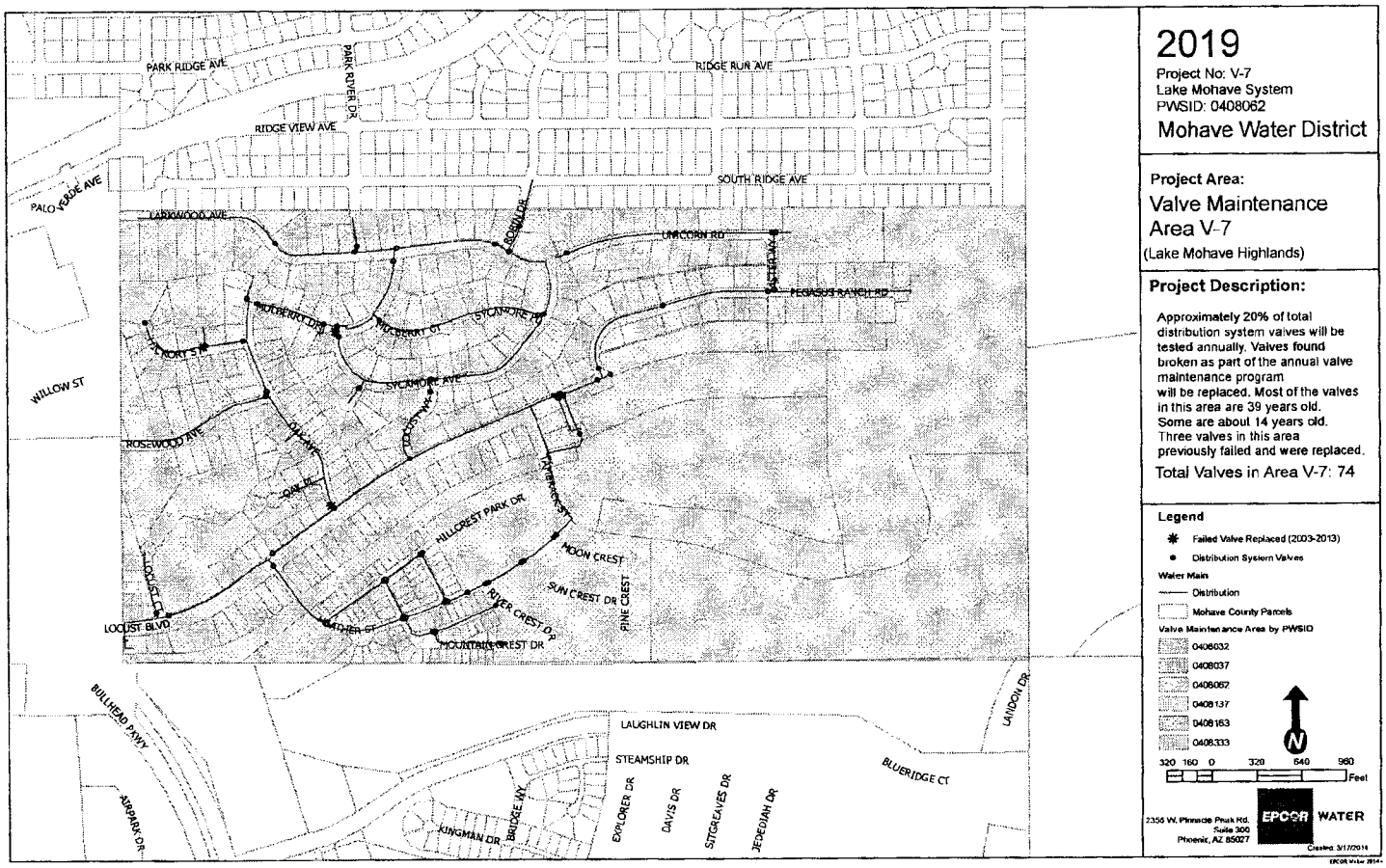
Mohave Water District, Lake Mohave System – PWS ID No. 08062

SIB PLANT TABLE I, 2-7

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-7	331	gate valves	6	2-4" 1-6" 3-8"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201	Lake Mohave Highlands	12/2019	n/a	$29,115	Replace 2-4", 1-6", and 3-8" (estimated, 6 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Most of the valves in this area are 39 years old; some are about 14 years old. Three valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-7 in Exhibit CC-1-A for more detail.
Total			**6**							**$29,115**	



2019

Project No: V-7
Lake Mohave System
PWSID: 0408062

Mohave Water District

Project Area:

Valve Maintenance Area V-7

(Lake Mohave Highlands)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. Most of the valves in this area are 39 years old. Some are about 14 years old. Three valves in this area previously failed and were replaced.

Total Valves in Area V-7: 74

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main

- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID

- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

320 160 0 320 640 960 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water 2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Lake Mohave System	**2019 V-7**	Lake Mohave Highlands

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-7.	$ 8,000
1	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-7.	$ 4,200
3	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-7.	$ 14,100
2	hour	28	Company labor for field oversight and construction management (4" valves)	$ 56
1	hour	28	Company labor for field oversight and construction management (6" valves)	$ 28
3	hour	28	Company labor for field oversight and construction management (8" valves)	$ 84
Subtotal				$ 26,468
General Overhead Rate on Labor and Capital (10%)				$ 2,647
Total Estimated Cost				**$ 29,115**

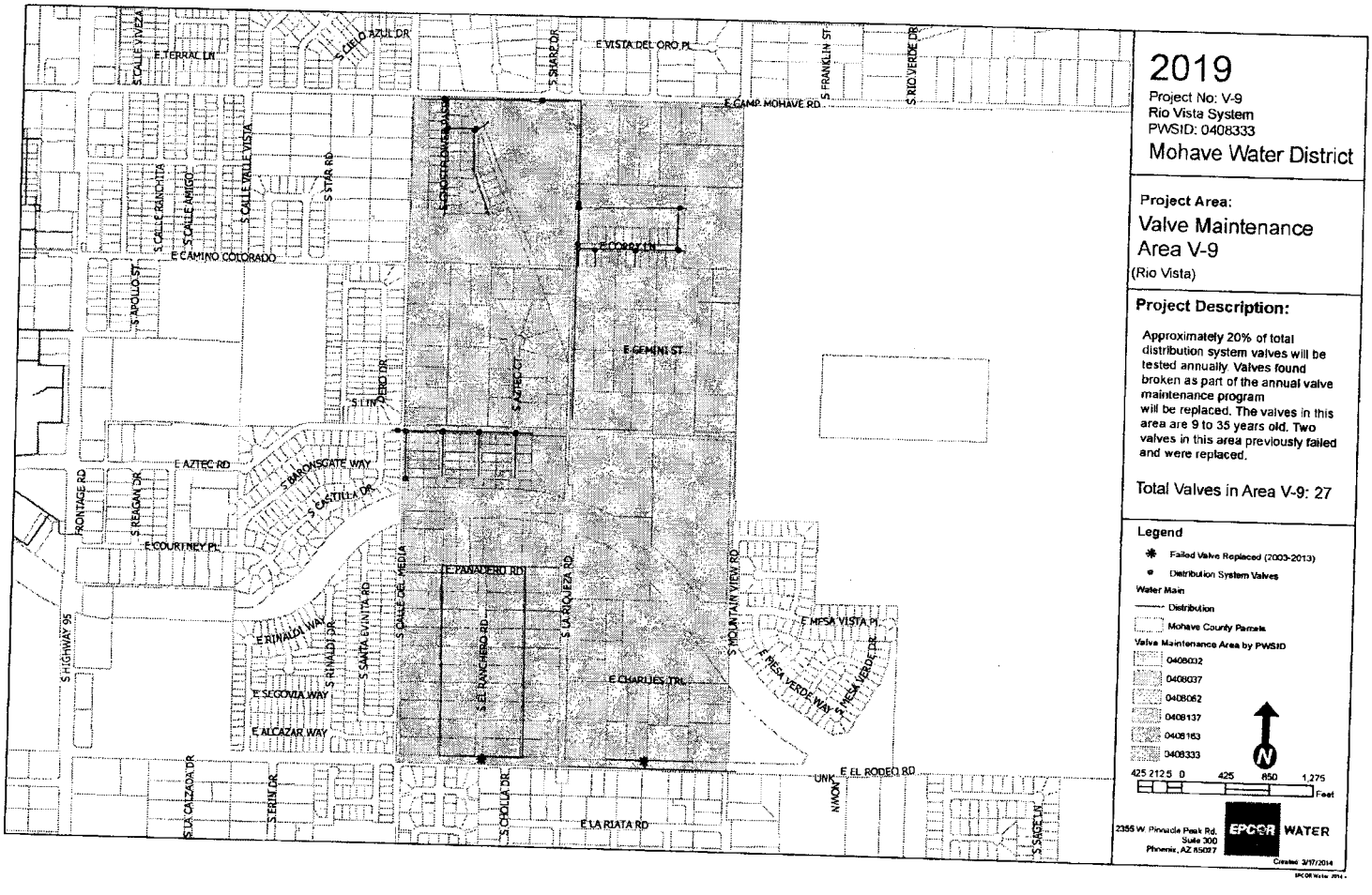
Mohave Water District, Camp Mohave System – PWS ID No. 08037

SIB PLANT TABLE 1, 2-8

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-8	331	gate valves	4	2-4" 1-8" 1-10"	cast iron with rubberized epoxy coating	4"-$4,431 8"-$5,201 10"-$5,641	Camp Mohave	12/2019	n/a	$19,703	Replace 2-4", 1-8", and 1-10" (estimated, 4 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 17 years old. Four valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-8 in Exhibit CC-1-A for more detail.
Total			**4**							**$19,703**	



2019

Project No: V-9
Rio Vista System
PWSID: 0408333

Mohave Water District

Project Area:

Valve Maintenance Area V-9
(Rio Vista)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 9 to 35 years old. Two valves in this area previously failed and were replaced.

Total Valves in Area V-9: 27

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main
- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID
- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

N

425 212.5 0 425 850 1,275 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water 2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Camp Mohave System	Project Year and Number: **2019 V-8**	Project Location: Camp Mohave

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-8.	$ 8,000
1	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-8.	$ 4,700
1	10" Valve	5100	Contractor material and labor to replace 10" valves in Area V-8.	$ 5,100
2	hour	28	Company labor for field oversight and construction management (4" valves)	$ 56
1	hour	28	Company labor for field oversight and construction management (8" valves)	$ 28
1	hour	28	Company labor for field oversight and construction management (10" valves)	$ 28
Subtotal				$ 17,912
General Overhead Rate on Labor and Capital (10%)				$ 1,791
Total Estimated Cost				**$ 19,703**

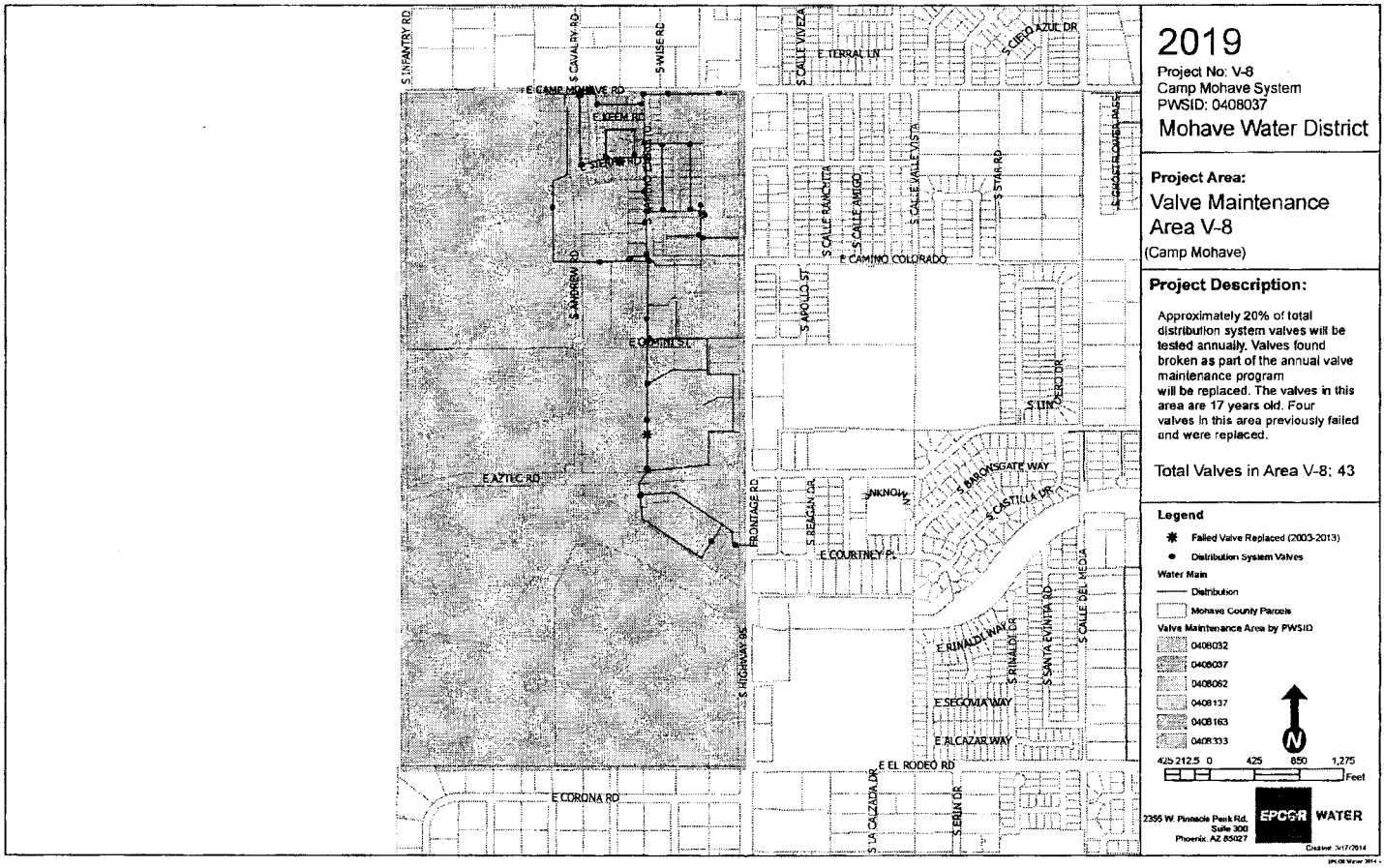
Mohave Water District, Rio Vista System – PWS ID No. 08333

SIB PLANT TABLE 1, 2-9

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-9	331	gate valves	2	1-6" 1-8"	cast iron with rubberized epoxy coating	6"-$4,651 8"-$5,201	Rio Vista Ranches	12/2019	n/a	$9,852	Replace 1-6" and 1-8" (estimated, 2 total) distribution system valves that are no longer functioning. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 9 to 35 years old. Two valves in this area previously failed and were replaced. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-9 in Exhibit CC-1-A for more detail.
Total			2							$9,852	



2019

Project No: V-8
Camp Mohave System
PWSID: 0408037

Mohave Water District

Project Area:

Valve Maintenance Area V-8

(Camp Mohave)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 17 years old. Four valves in this area previously failed and were replaced.

Total Valves in Area V-8: 43

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main

- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID

- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water 2014 -

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, PE	Water System: Mohave Water District, Rio Vista System	Project Year and Number: **2019 V-9**	Project Location: Rio Vista Ranches	

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-9.	$ 4,200
1	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-9.	$ 4,700
1	hour	28	Company labor for field oversight and construction management (6" valves)	$ 28
1	hour	28	Company labor for field oversight and construction management (8" valves)	$ 28
Subtotal				$ 8,956
General Overhead Rate on Labor and Capital (10%)				$ 896
Total Estimated Cost				**$ 9,852**

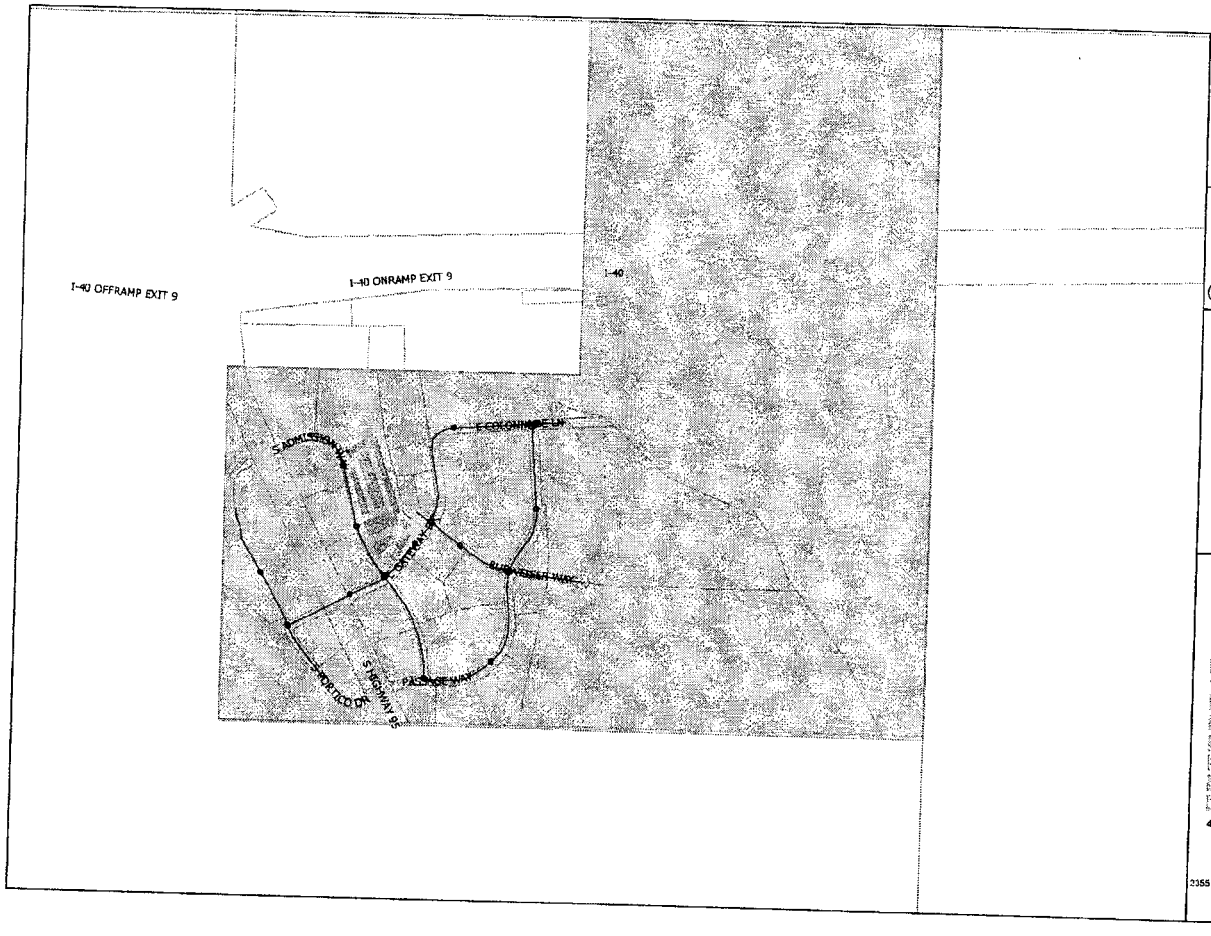
Mohave Water District, Arizona Gateway System – PWS ID No. 08163

SIB PLANT TABLE 1, 2-10

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-10	331	gate valves	1	1-8"	cast iron with rubberized epoxy coating	$5,201	Arizona Gateway	12/2019	n/a	$5,201	Replace 1-8" (estimated) distribution system valve that is no longer functioning. This number is only an estimate and is based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are 12 to 13 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-10 in Exhibit CC-1-A for more detail.
Total			1							**$5,201**	



2019

Project No: V-10
Arizona Gateway System
PWSID: 0408163

Mohave Water District

Project Area:

Valve Maintenance Area V-10
(Arizona Gateway)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced. The valves in this area are 12 to 13 years old.

Total Valves in Area V-10: 30

Legend

- Failed Valve Replaced (2003-2013)
- Distribution System Valves

Water Main
- Distribution

Mohave County Parcels

Valve Maintenance Area by PWSID
- 0408032
- 0408037
- 0408062
- 0408137
- 0408163
- 0408333

N

425 212.5 0 425 850 1,275 Feet

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

EPCOR WATER

Created: 3/17/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Mohave Water District, Arizona Gateway System	**2019 V-10**	Arizona Gateway

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-10.	$ 4,700
1	hour	28	Company labor for field oversight and construction management (8" valves)	$ 28
Subtotal				$ 4,728
General Overhead Rate on Labor and Capital (10%)				$ 473
Total Estimated Cost				**$ 5,201**

SIB ENGINEERING REPORT

(Exhibit CC-1-C)

EPCOR Water (USA) Inc.

Paradise Valley Water District

PWS ID No. 0407056

Revised June 11, 2014

Introduction

EPCOR Water is submitting this report as **Exhibit CC-1-C** for the direct testimony of Candace Coleman, dated March 7, 2014. The intent of this report is to support EPCOR's System Improvement Benefit (SIB) application for its Paradise Valley district. Included in this report are a brief system introduction followed by detailed project justifications for asset replacement projects. Each project is accompanied by the corresponding **SIB Plant Table I.**

EPCOR Water supplies water to approximately 5,000 customers in the Paradise Valley Water District. The distribution system is comprised of about 130 miles of pipe and 1,500 distribution system valves. During the last five years, approximately $1.8 million was spent replacing services, valves, and mains, with about $1.3 million spent in 2012 and 2013 alone, as shown in **Table A**. This is only a small portion of the total items that need to be replaced, and only addressed the egregious and visible infrastructure failures. The budget for replacement of critical assets in this system needs to be increased to ensure the reliability of the system and to decrease system water loss.

In the past, assets were replaced when there was a noticeable failure such as water surfacing. This type of reactive approach is typically more expensive as replacements usually occur in an emergency situation, sometimes requiring an unnecessary interruption in water service. It may also result in water losses, overtime pay, and paying a premium for parts. With water loss in the Paradise Valley district at 6%, it is important to keep up with asset replacement needs to keep this number from rising. Another concern, related to reactive maintenance, is public health and safety. Emergency repairs may require unanticipated shutdowns of the distribution system, leaving homes and possibly fire hydrants without water. Saturated soils, resulting from leaking pipes, may undermine roads, utilities, and other structures.

EPCOR has developed a planned replacement approach to asset management for the future. For service lateral, valve, and water main replacements, EPCOR is using an industry standard Nessie Curve that relies on infrastructure age and historical data to help predict the rate of failure that will occur in the future. Results of the Nessie Curve are used as a baseline to assist in determining which asset types are the most critical for replacement.

The remainder of this report will give a detailed explanation of the replacements planned for the

next five years and an overview of the condition of the Paradise Valley Water system infrastructure. Service line, valve, and water main replacement projects are broken down and described by year in the SIB Plant Table I; a map and cost estimate are provided for each project. The information is organized as follows:

- Section 1 – Services
- Section 2 – Valves
- Section 3 – Water Mains

Table B summarizes the recommended estimated project quantities and spending per category by year for the next five years. It is estimated that a total of about $7.0 million will be spent over the next five years, with an average spend of $1.4 million per year. These costs are expected to vary slightly by year depending on field conditions, business requirements, and staff availability.

Table A - Historical Asset Repairs and Replacements, Paradise Valley Water District, 2009-2013

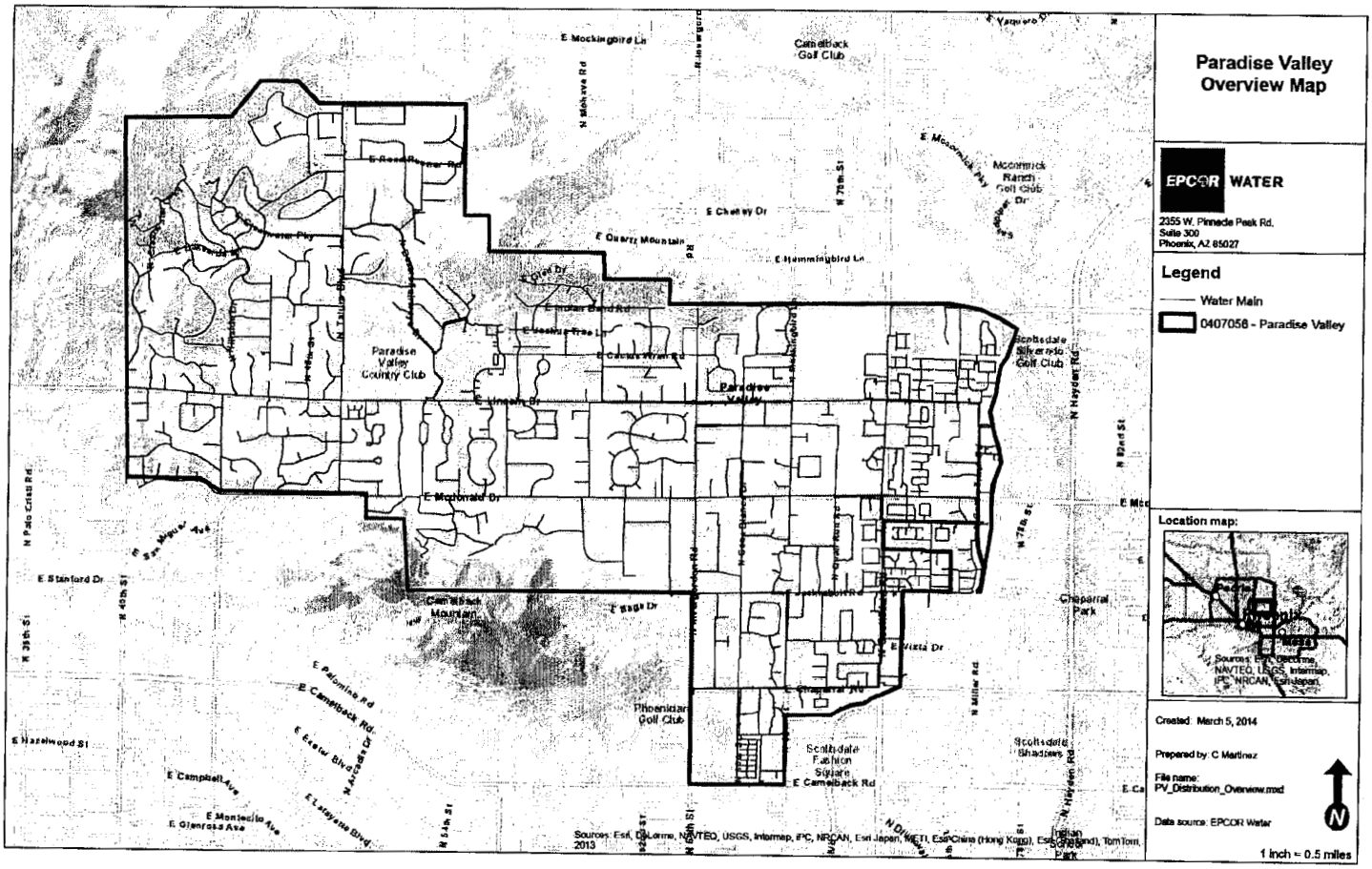
Asset Type	2009	2010	2011	2012		2013		Total
	$	$	$	units	$	units	$	$
Mains Repairs (units are # of repairs)	$ 52,099	$ 109,063	$ 38,573	17	$ 241,860	15	$ 70,595	$ 512,190
Service Replacements	$ 79,658	$ 103,052	$ 46,076	118	$ 168,392	175	$ 330,549	$ 727,727
Valve Replacements	$ 28,178	$ 81,566	$ 55,493	18	$ 234,605	26	$ 163,690	$ 563,532
Total	**$ 159,935**	**$ 293,681**	**$ 140,142**		**$ 644,857**		**$ 564,834**	**$ 1,803,449**

* units only available 2012-2013

Table B - Planned Asset Replacements, Paradise Valley Water District, 2015-2019

Asset Type	2015		2016		2017		2018		2019		Total	
	units	$	units	$	units	$	units	$	units	$	units	$
Mains (units are feet of pipe)	2,088	$ 454,179	1,982	$ 346,614	1,700	$ 291,500	2,030	$ 362,142	1,426	$ 224,369	9,226	$ 1,678,804
Services	209	$ 813,727	212	$ 824,710	239	$ 930,283	232	$ 904,042	196	$ 761,957	1,088	$ 4,234,719
Valves	40	$ 203,628	40	$ 225,795	40	$ 242,691	40	$ 204,380	40	$ 229,975	200	$ 1,106,469
Total		**$ 1,471,534**		**$ 1,397,119**		**$ 1,464,474**		**$ 1,470,564**		**$ 1,216,301**		**$ 7,019,992**

* projected service replacement costs are higher than historical replacement costs; projected costs include contractor pricing
** cost estimates are in 2014 dollars and do not account for inflation


Paradise Valley Overview Map
EPCOR WATER
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
Legend
Water Main
0407056 - Paradise Valley
Location map:
Created: March 5, 2014
Prepared by: C Martinez
File name:
PV_Distribution_Overview.mxd
Data source: EPCOR Water
1 inch = 0.5 miles
Paradise Valley Country Club
Paradise Valley
Camelback Golf Club
Scottsdale Silverado Golf Club
Phoenician Golf Club
Scottsdale Fashion Square
Scottsdale Shadows
Chaparral Park
Camelback Mountain
E Mockingbird Ln
E Cheney Dr
E Hummingbird Ln
E Lincoln Dr
E Mcdonald Dr
E Stanford Dr
E Vista Dr
E Camelback Rd
E Campbell Ave
E Montecito Ave
E Glenrosa Ave
E Hazelwood St
E Palomino Rd
N Hayden Rd
N 82nd St
N 78th St
N 40th St
N 39th St
N 54th St
N Miller Rd
N Palo Cristi Rd
Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

SECTION 3 – MAINS

3.1 Overview

EPCOR's Paradise Valley Water district includes about 130 miles of distribution main. About half of this pipe was installed before 1970, starting in 1946. Many mains have been breaking or leaking due to various reasons including inferior pipe material and deterioration from the aging process.

3.2 Nessie Curve

As explained in the previous two sections, a "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it; this is to say when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

Exhibit 3-1 is the Nessie curve which was developed specifically for the water distribution mains in EPCOR's Paradise Valley district. Exhibit 3-2 shows the same data in tabular format. The

[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

curve indicates that in the next six years, from 2015 through 2020, approximately $6 million should be spent on main replacements, or about $1 million per year. This equates to about 5,613 linear feet (LF) of main replacements per year.

Exhibit 3-2 – Main Line Nessie Curve

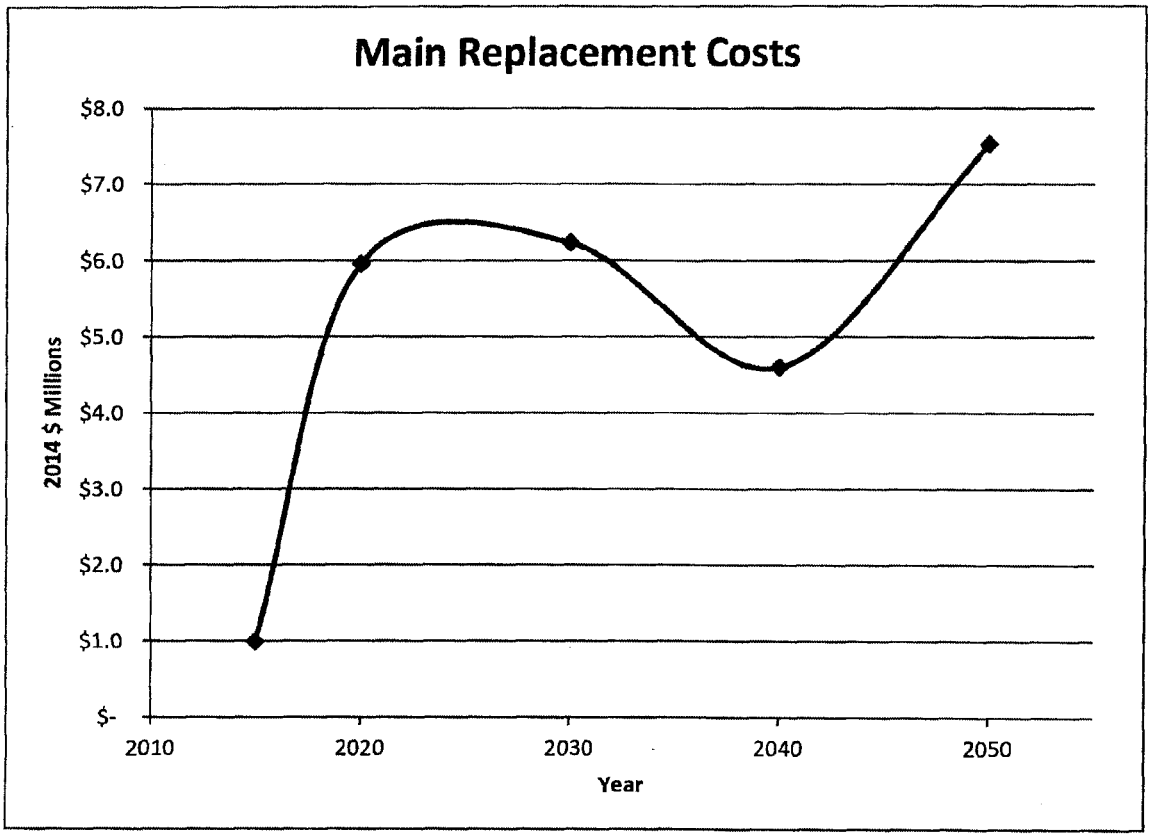


Exhibit 3-2 Nessie Curve Table

Time Frame	Linear Feet of Main to be Replaced	Cost to Replace Mains	Linear Feet of Main to be Replaced per Year	Cost per Year
today-2020	33678	$ 5,960,997	5613	$ 993,499
2020-2030	35209	$ 6,231,912	3521	$ 623,191
2030-2040	25970	$ 4,596,637	2597	$ 459,664
2040-2050	42463	$ 7,516,013	4246	$ 751,601

3.3 Main Age, Material, and Size

Water mains in the Paradise Valley district are currently as old as 68 years. In the past two years, there have been 32 main repairs in the Paradise Valley system; however, this does not include mains which are leaking unbeknownst to EPCOR employees. Details on these repairs can be found under the following tab, **Historical Repair Data**. The average age of the mains which were repaired is 57 years; approximately 24% of the system mains are 57 years old or older.

Many of the mains where the breaks are occurring were installed in the 1950s and are constructed of asbestos-cement (AC). This material is brittle and is no longer used in water systems. There is also a large percentage of cast iron pipe, which was discontinued for use in water systems in the 1960s due to its susceptibility to corrosion. New mains will be polyvinyl chloride (PVC) which is proven to be more reliable. Many of the mains in which breaks occur are 4" mains in high pressure (>100 psi) areas. Newly installed mains must be designed to handle system pressures and flows, and in order to maintain the integrity of new mains, 6" mains will be installed instead of 4" mains where it is sensible to do so.

3.4 Main Replacements

Although the Nessie curve suggests that almost 6,000 feet of pipe should be replaced per year, the majority of breaks are occurring within a few specific areas; EPCOR has identified nine such areas and estimates that only about an average of 1,800 feet of pipe need to be replaced per year due to frequent breaks. Although the included repair data only includes work done in 2012 and 2013, operations staff has marked the mains to be replaced with leaks and breaks that have occurred in the past five years (only the location was marked, and there is no data on the specific date or the repair work that was done between 2009 and 20011). These locations can be viewed on the maps included with each replacement project. These projects recommend the replacement of approximately 9,000 feet of main in the next five years. The estimated cost for these replacements totals about $1.7 million.

Main replacement projects are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019**. SIB Plant Tables I, 3-1 through SIB Plant Table I, 3-5 provide a detailed description of each main replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 3-1) through 2019 (Table I, 3-5). Each project addresses

a set of main replacements that will occur within a defined area. Each project can also be tied to a map showing the main replacement as well as historical replacements and repairs in the area. (Historical data include only main replacements and repairs between 2008 and 2013; replacements and repairs prior to 2008 are not included.) A detailed cost estimate for each project is also provided.

PARADISE VALLEY WATER DISTRICT - MAIN REPAIRS 2012-2013

ADDRESS	SIZE	WATER LOSS (KGAL)	REPAIR DATE	INSTALL YEAR	MATERIAL	NOTES
5825 E Starlight Wy	4"	45	2/29/2012	1953	AC Pipe	4" C-900 PVC
6310 N 47th Pl	6"	2	2/29/2012	1972	Ductile Iron Pipe	6" Ductile Iron Cap and Plug
5105 E Valle Vista Wy	4"	50	3/31/2012	1956	Cast Iron	4" PVC
6621 N Tatum Blvd	4"		4/30/2012	1954	Cast Iron	4" PVC
6621 N Tatum Blvd	4"		4/30/2012	1954	Cast Iron	4" PVC
5807 N 68th Pl	6"	450	5/31/2012	1953	AC	Ductile, fittings, backfill, Paving
6300 E Lincoln Dr	8"	75	5/31/2012	1953	AC	Ductile, fittings, backfill, Paving
Quail Run Rd & McDonald Dr	6"	10	6/30/2012	1953	AC	PVC, fittings, backfill, Paving
Scottsdale Rd and McDonald Dr	6"	500	6/30/2012	1954	AC	PVC, fittings, backfill, Paving
6329 N 44th St	8"	500	7/31/2012	1956	Cast Iron	PVC, fittings, backfill
5251 E McDonald Dr	6"	100	7/31/2012	1950	AC	PVC, fittings, backfill, Paving
5639 N Wilkinson Rr	4"	200	7/31/2012	1956	AC	PVC, fittings, backfill, Decorative Concrete Driveway
5030 E Valley Vista Ln	2"	50	7/31/2012	1969	Galvanized	PVC, fittings, backfill
5302 N 69th Pl	6"	50	7/31/2012	1959	AC	PVC, fittings, backfill, Paving
5300 N Wilkinson Rd	4"	25	9/30/2012	1955	AC Pipe	PVC, fittings, backfill
Chaparral Rd & Wilkinson Rd	4"	70	9/30/2012	1956	AC Pipe	PVC, fittings, backfill, paving
Desert Fairways Dr & Eucalyptus Dr	6"	80	11/30/2012	1956	Cast Iron Pipe	Ductile Iron Pipe, backfill, fittings, paving
5801 E Starlight Way	4"	80	1/31/2013	1953	AC Pipe	Ductile Iron Pipe, backfill, fittings, paving
Desert Fairways Dr & Eucalyptus Dr	8"	500	1/31/2013	1953	AC Pipe	Ductile Iron Pipe, backfill, fittings, paving
Desert Fairways Dr & Eucalyptus Dr	6"	500	1/31/2013	1956	AC Pipe	Ductile Iron Pipe, backfill, fittings, paving
68th Pl & Montebello Ave	6"	250	2/28/2013	1959	Cast Iron Pipe	Ductile Iron Pipe, backfill, fittings,
6001 N 60th St	4"	50	2/28/2013	1950	AC Pipe	Ductile Iron Pipe, backfill, fittings, paving
6800 E Chaparral Rd	6"	100	2/28/2013	1953	AC Pipe	Ductile Iron Pipe, backfill, fittings, paving
5022 N Tamanar Way	2"	5	2/28/2013	1960	Galvanized Pipe	Galvanized Pipe, backfill, fittings, landscaping
5301 N San Juan Ave	8"	80	3/31/2013	1950	Cast iron Pipe	Ductile Iron Pipe, backfill, fittings,
5800 N Casa Blanca Dr	4"	100	3/31/2013	1950	AC Pipe	Ductile Iron Pipe, backfill, fittings, paving
6363 N 48th St	8"	65	6/30/2013	1953	C-900	C-900, backfill, fittings, concrete drive
4500 E Lakeside Ln	6"	85	6/30/2013	1954	Cast Iron	C-900, backfill, fittings
5240 E Paradise Canyon Rd	6"	250	8/31/2013	1956	' of 6" castiron ma	6' of 6" C - 900 PVC and 2 - 6" couplings
6612 N Ironwood Dr	4"	20	9/30/2013	1953	Cast Iron Pipe	backfill, fittings, landscaping
5920 N 52nd Pl	4"	50	9/30/2013	1954	Cast Iron Pipe	backfill, fittings, paving
5635 E Lincoln Dr	4"	45	10/31/2013	1956	Cast Iron Pipe	4" x 12" full circle clamp

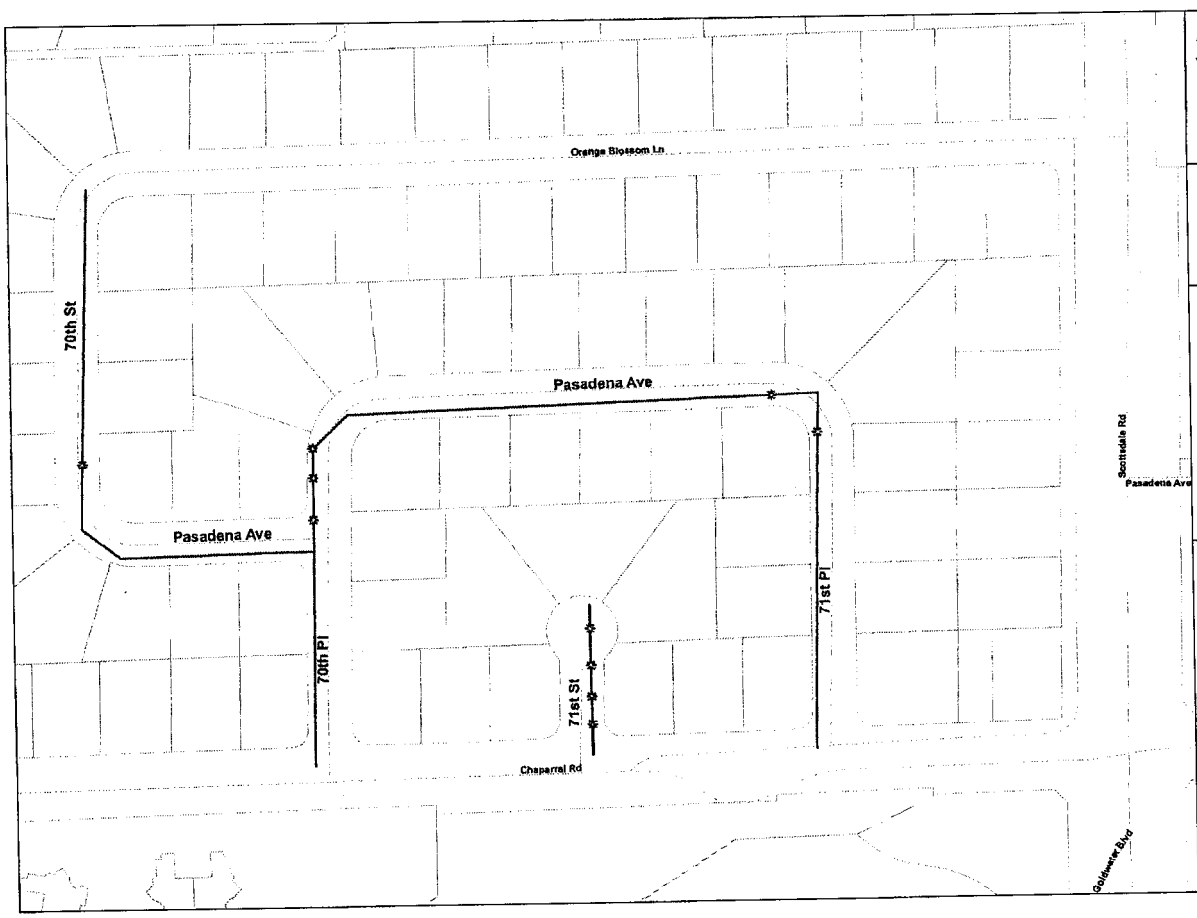
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-1

2015 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-1	331	Distribution Main	2,179 LF	6"	PVC	$208	Pasadena Loop	12/2015	n/a	$454,179	Replace 2,179 LF of existing main with 6" PVC in Pasadena Ave, 70th St, 70th Pl, 1st St, and 71st Pl. Ln. The main was installed in 1951 and the existing pipe material is a combination of asbestos-cement and galvanized steel which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-1 in Exhibit CC-1-C for more detail.
Total			**2,088 LF**							**$454,179**	



2015

Project No: WM-1 •
PWSID: 0407056

Paradise Valley

Project Area:

Pasadena Loop

Project Description:

Replace existing main in Pasadena Ave with 2,179 LF of 6" main.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

40 20 0 40 80 120 160 Feet

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

EPCOR WATER

Created: 2/17/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2015 WM-1**	Pasadena Loop

Project Description:

Replace existing main on Pasadena Ave, Chaparral Rd, 70th Pl, 71st Pl, and 71st St with 2,088 feet of 6" main

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2,088	linear feet	147	Contractor material and labor to install main and service connections	$ 306,936
1	lump sum	34,000	Consultant engineering design	$ 34,000
530	hours	35	Company labor for field oversight and inspections	$ 18,550
260	hours	45	Company labor for project management	$ 11,700
Subtotal				$ 371,186
General Overhead Rate on Labor and Capital (10%)				$ 37,119
Total Estimated Cost				**$ 408,305**

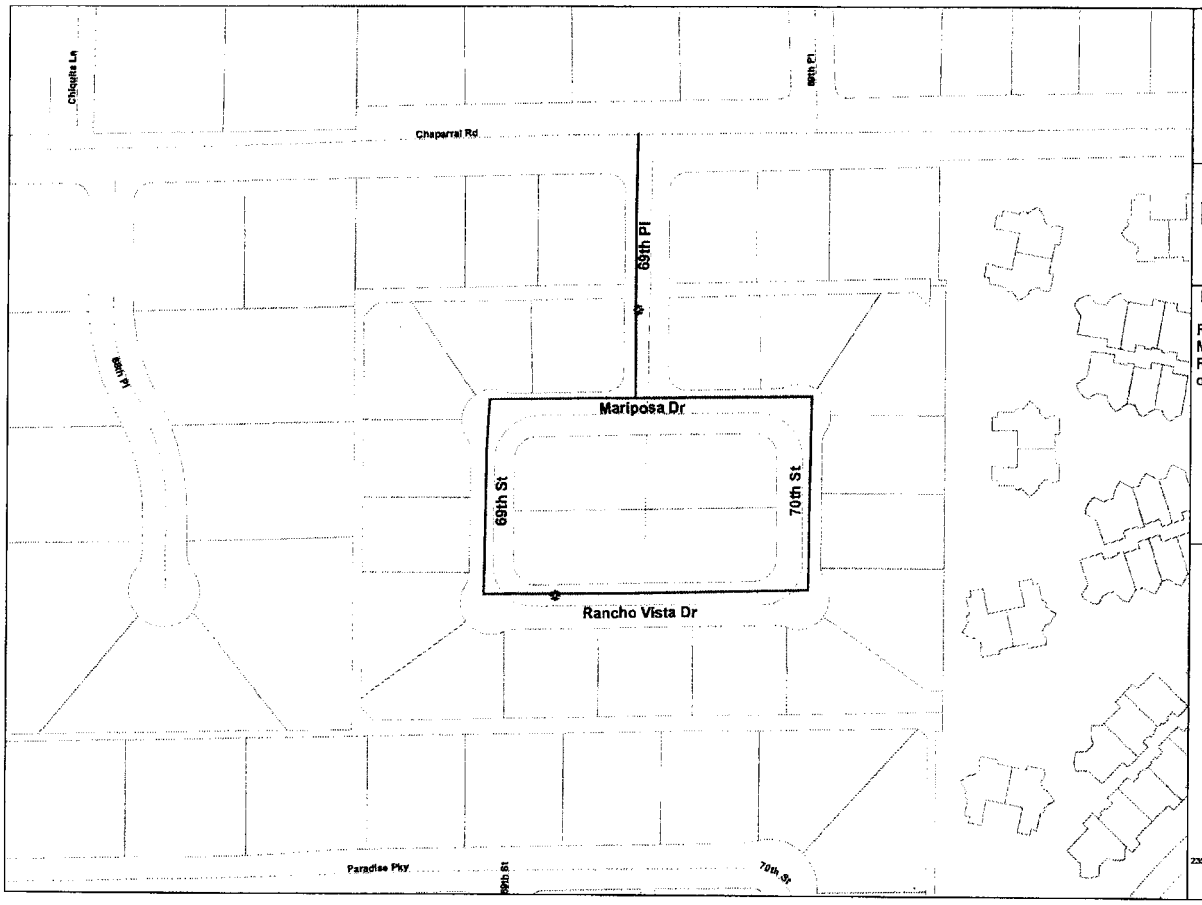
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-2

2016 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-2	331	Distribution Main	1,462 LF	6"	PVC	$192	Mariposa Dr	12/2016	n/a	$280,944	Replace existing main in 69th Pl, Mariposa Dr, 69th St, 70th St, and Rancho Vista Dr with 1,462 feet of 6" main. The main was installed in 1954 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-2 in Exhibit CC-1-C for more detail.
WM-3	331	Distribution Main	520 LF	4"	PVC	$126	Silvercrest Way	12/2016	n/a	$65,670	Replace existing main in Silvercrest Way between Clearwater Hills Tanks 1 and 3 with 520 feet of 4" main. The main was installed in 1953 and the existing pipe material is asbestos-cement. This main is currently known to be leaking, but requires Clearwater Hills Tanks 1 and 3 be temporarily shut down in order to be replaced. Replacing the main will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-3 in Exhibit CC-1-C for more detail.
Total			**1,982 LF**							**$346,614**	



2016

Project No: WM-2 •
PWSID: 0407056

Paradise Valley

Project Area:

Mariposa Dr

Project Description:

Replace existing main in 69th Pl, Mariposa Dr, 69th St, 70th St and Rancho Vista Dr with 1,462 LF of 6" main.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

40 20 0 40 80 120 160 Feet

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

EPCOR WATER

Created: 2/14/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

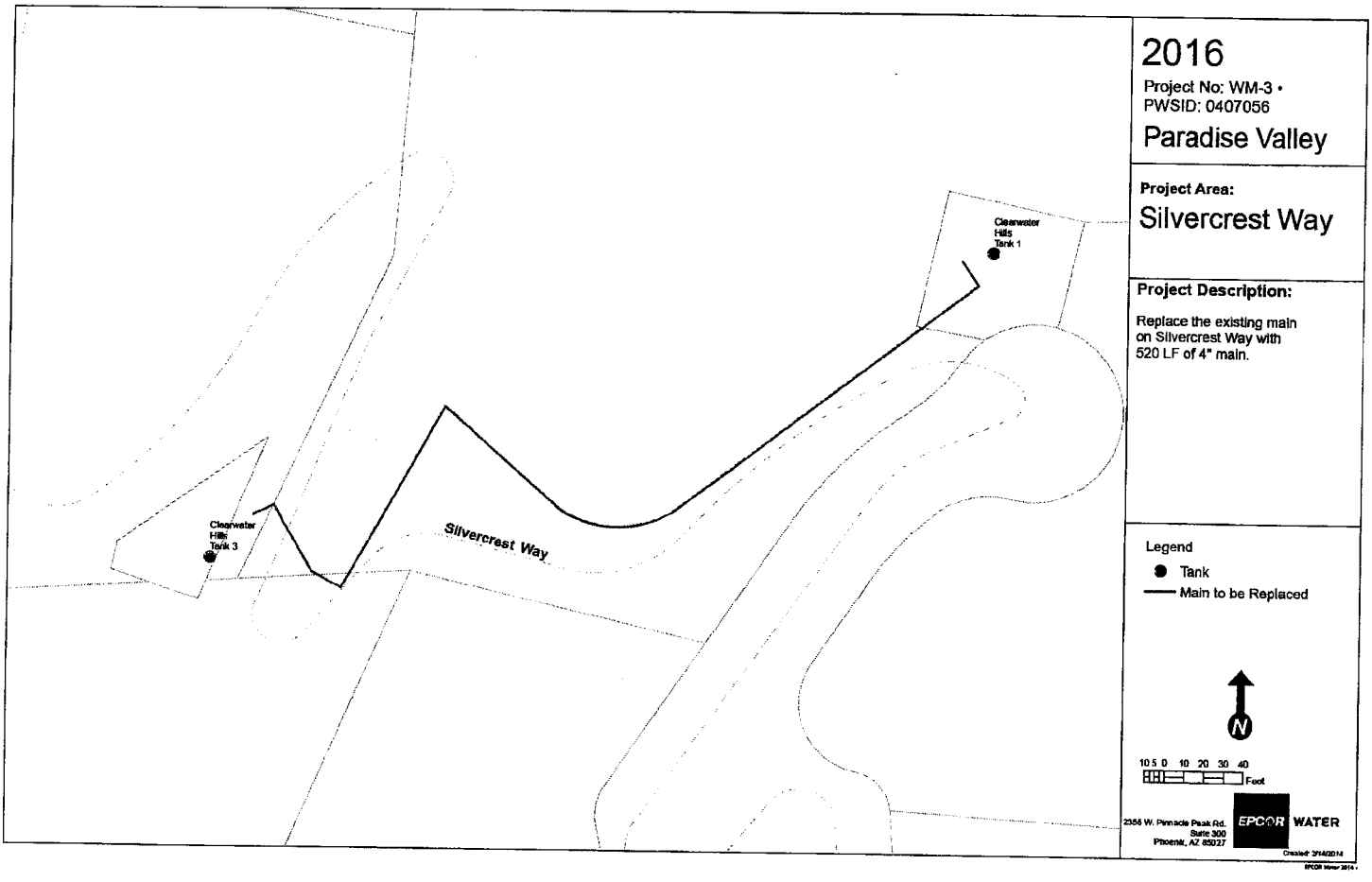
Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2016 WM-2**	Mariposa Dr

Project Description:

Replace existing main in 69th Pl, Mariposa Dr, 69th St, 70th St, and Rancho Vista Dr with 1,462 feet of 6" main.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,462	linear feet	142	Contractor material and labor to install main and service connections	$ 207,604
1	lump sum	23,000	Consultant engineering design	$ 25,000
420	hours	35	Company labor for field oversight and inspections	$ 14,700
180	hours	45	Company labor for project management	$ 8,100
Subtotal				$ 255,404
General Overhead Rate on Labor and Capital (10%)				$ 25,540
Total Estimated Cost				**$ 280,944**



2016

Project No: WM-3 •
PWSID: 0407056

Paradise Valley

Project Area:

Silvercrest Way

Project Description:

Replace the existing main on Silvercrest Way with 520 LF of 4" main.

Legend

- Tank
- Main to be Replaced

N

10 5 0 10 20 30 40
Feet

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

EPCOR WATER

Created: 3/14/2014

EPCOR Water 2014 •

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2016 WM-3**	Project Location: Silvercrest Way	
Project Description: Replace existing main in Silvercrest Way with 520 feet of 4" main				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
520	linear feet	95	Contractor material and labor to install main	$ 49,400
1	lump sum	5,000	Consultant engineering design	$ 5,000
100	hours	35	Company labor for field oversight and inspections	$ 3,500
40	hours	45	Company labor for project management	$ 1,800
Subtotal				$ 59,700
General Overhead Rate on Labor and Capital (10%)				$ 5,970
Total Estimated Cost				**$ 65,670**

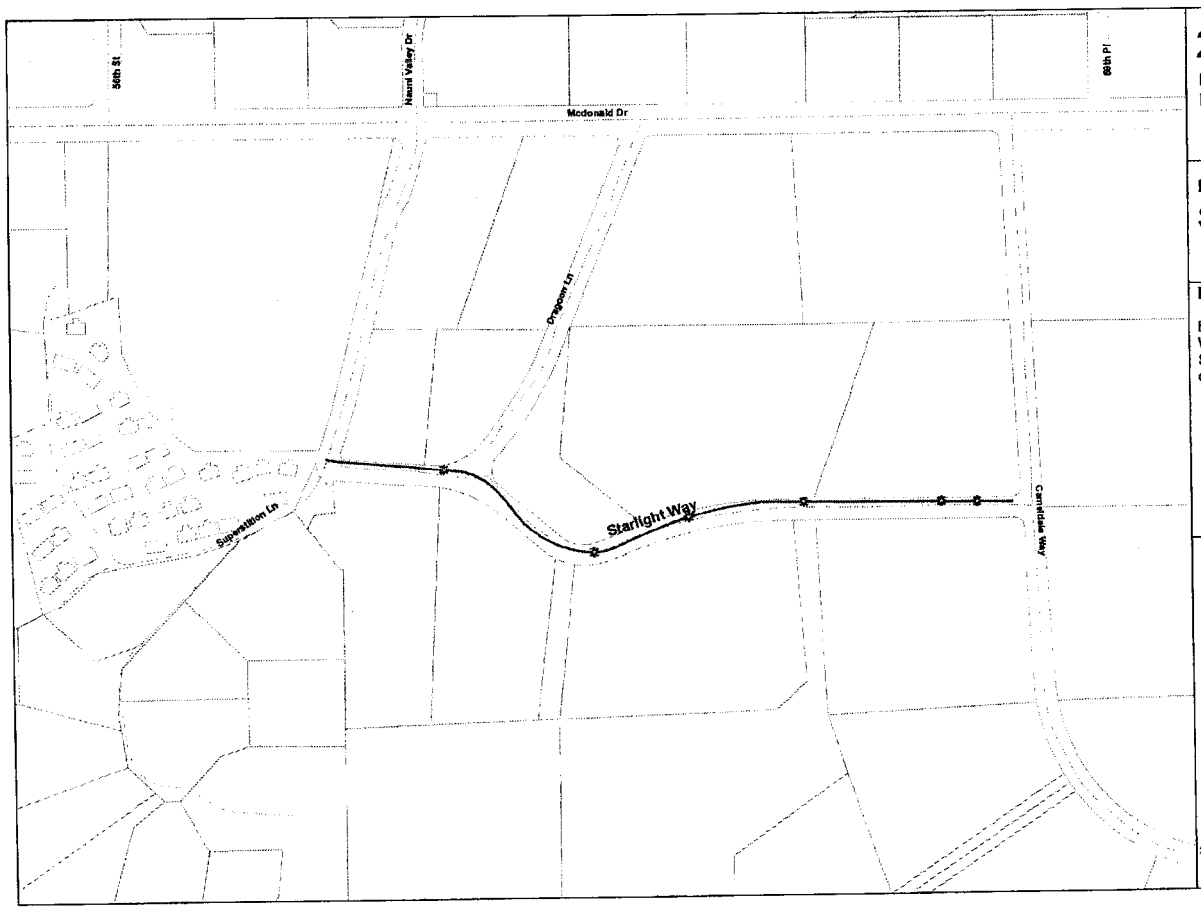
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-3

2017 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-4	331	Distribution Main	1,700 LF	6"	PVC	$171	Starlight Way	12/2017	n/a	$291,500	Replace existing main in Starlight Way between Camelsdale Way and Superstition Ln with 1,700 feet of 6" main. Most of this main was installed in 1953 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-4 in Exhibit CC-1-C for more detail.
Total			**1,700 LF**							**$291,500**	



2017

Project No: WM-4 •
PWSID: 0407056

Paradise Valley

Project Area:

Starlight Way

Project Description:

Replace existing main on Starlight Way between Camdeldale Way and Superstition Ln with 1,700 feet of 6" Main

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

80 40 0 80 160 240 320
Feet

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

EPCOR WATER

Created: 2/14/2014

EPCOR Water 2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2017 WM-4**	Starlight Way

Project Description:

Replace existing main on Starlight Way between Cameldale Way and Superstition Ln with 1,700 feet of 6" main

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,700	linear feet	127	Contractor material and labor to install main and service connections	$ 215,900
1	lump sum	24,000	Consultant engineering design	$ 24,000
460	hours	35	Company labor for field oversight and inspections	$ 16,100
200	hours	45	Company labor for project management	$ 9,000
Subtotal				$ 265,000
General Overhead Rate on Labor and Capital (10%)				$ 26,500
Total Estimated Cost				**$ 291,500**

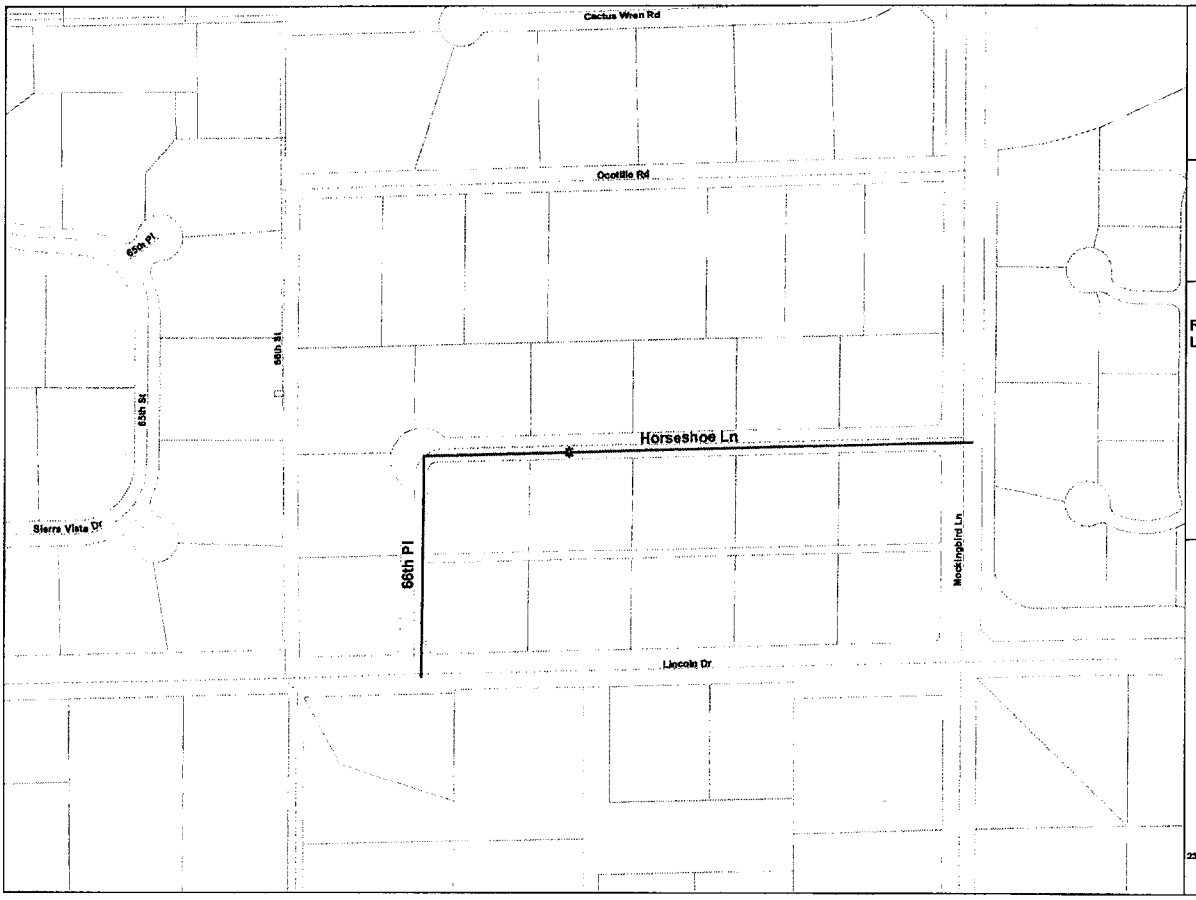
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 3-4

2018 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-5	331	Distribution Main	1,530 LF	6"	PVC	$180	Horseshoe Ln	12/2018	n/a	$274,802	Replace existing main in Horseshoe Ln and 66th Ln with 1,530 feet of 6" main. The main was installed in 1953 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-5 in Exhibit CC-1-C for more detail.
WM-6	331	Distribution Main	500 LF	6"	PVC	$175	Quail Run	12/2018	n/a	$87,340	Replace existing main in the rear lot easement between Quail Run and Quail Pl with with 500 feet of 4" main in Quail Run. The main was installed in 1955 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and increase system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-6 in Exhibit CC-1-C for more detail.
Total			**2,030 LF**							**$362,142**	



2018

Project No: WM-5 •
PWSID: 0407056

Paradise Valley

Project Area:

Horseshoe Lane

Project Description:

Replace existing main on Horseshoe Ln and 66th Pl with 1,530 of 6" main.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

70 35 0 70 140 210 280 Feet

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

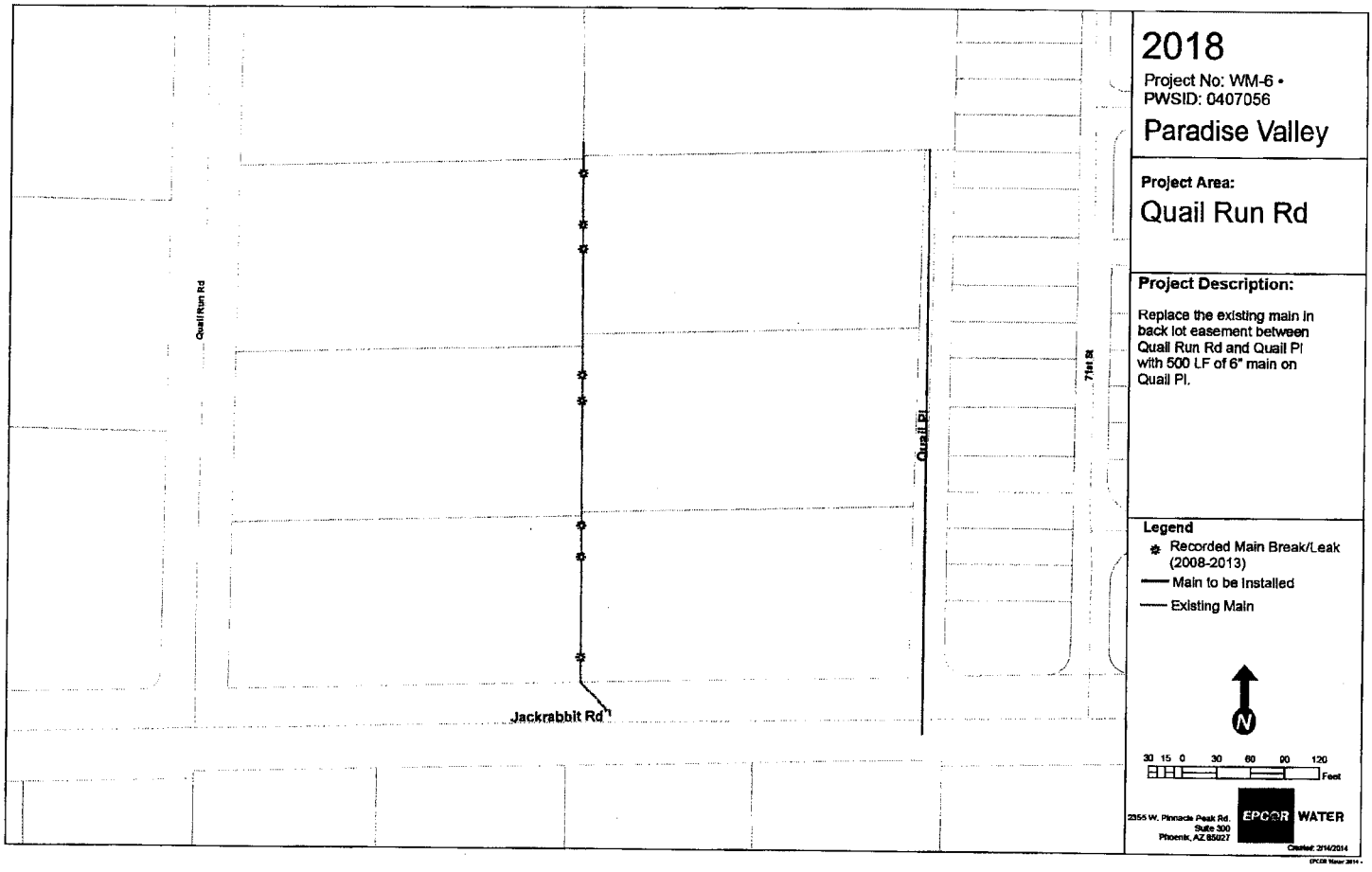
EPCOR WATER

Created: 2/14/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 WM-5**	Project Location: Horseshoe Ln	
Project Description: Replace existing main on Horseshoe Ln and 66th Ln with 1,530 feet of 6" main				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1,530	linear feet	134	Contractor material and labor to install main and service connections	$ 205,020
1	lump sum	22,000	Consultant engineering design	$ 22,000
420	hours	35	Company labor for field oversight and inspections	$ 14,700
180	hours	45	Company labor for project management	$ 8,100
Subtotal				$ 249,820
General Overhead Rate on Labor and Capital (10%)				$ 24,982
Total Estimated Cost				**$ 274,802**



2018

Project No: WM-6 •
PWSID: 0407056

Paradise Valley

Project Area:

Quail Run Rd

Project Description:

Replace the existing main in back lot easement between Quail Run Rd and Quail Pl with 500 LF of 6" main on Quail Pl.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Installed
- Existing Main

N

30 15 0 30 60 90 120
Feet

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

EPCOR WATER

Created: 2/14/2014

EPCOR Water 2014 •

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2018 WM-6**	Quail Run

Project Description:
Replace existing main in the back lot easement between Quail Run Rd and Quail Run Pl with 500 feet of 6" main on Quail Run.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
500	linear feet	131	Contractor material and labor to install main and service connections	$ 65,500
1	lump sum	7000	Consultant engineering design	$ 7,000
120	hours	35	Company labor for field oversight and inspections	$ 4,200
60	hours	45	Company labor for project management	$ 2,700
Subtotal				$ 79,400
General Overhead Rate on Labor and Capital (10%)				$ 7,940
Total Estimated Cost				**$ 87,340**

Paradise Valley – PWS ID No. 0407056

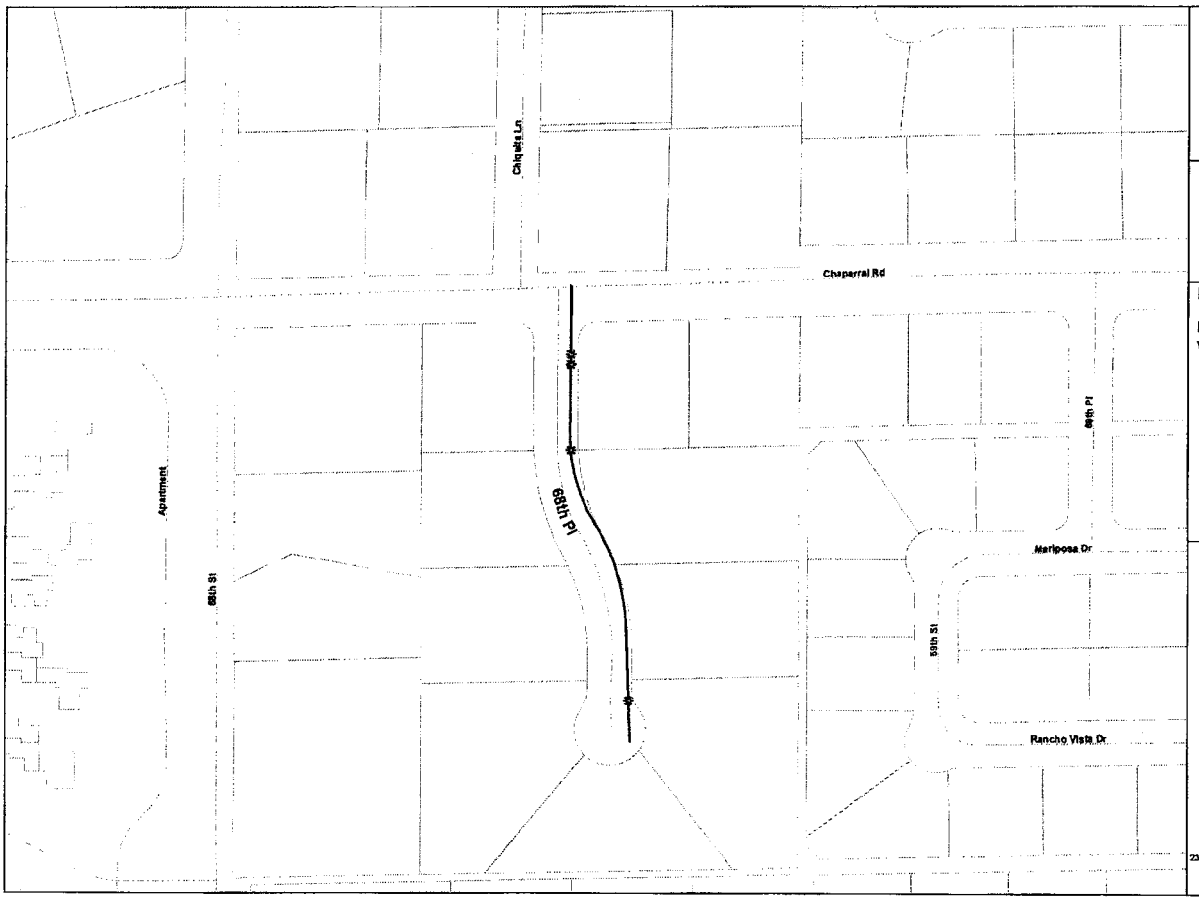
SIB PLANT TABLE I, 3-5

2019 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-7	331	Distribution Main	525 LF	6"	PVC	$173	68 Pl and Chaparral	12/2019	n/a	$90,943	Replace existing main on Chaparral Rd and 68th Pl with 525 feet of 6" main. The main was installed in 1958 and the existing pipe material is asbestos-cement which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The existing main is 4" in diameter, which is not appropriate for installing hydrants or supporting fire flow, nor is it sufficient to handle the high pressures in this area (>100 psi). The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-7 in Exhibit CC-1-C for more detail.
WM-8	331	Distribution Main	246 LF	4"	PVC	$165	Sierra Vista	12/2019	n/a	$40,493	Replace existing main in Sierra Vista with 246 feet of 4" main. The main was installed in 1960 and the existing pipe material is galvanized steel which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-8 in Exhibit CC-1-C for more detail.

WM-9	331	Distribution Main	655 LF	4"	PVC	$142	Tamanar Dr	12/2019	n/a	$92,934	Replace existing main in the four cul-de-sacs on Tamanar Dr with 655 feet of 4" main. The main was installed in 1960 and the existing pipe material is galvanized steel which has resulted in several leaks. Replacing the main will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-9 in Exhibit CC-1-C for more detail.
Total			**1,426 LF**							**$224,369**	



2019

Project No: WM-7 •
PWSID: 0407056

Paradise Valley

Project Area:

68th Place & Chaparral

Project Description:

Replace the existing main on 68th Pl with 525 LF of 6" main.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

40 20 0 40 80 120 160 Feet

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

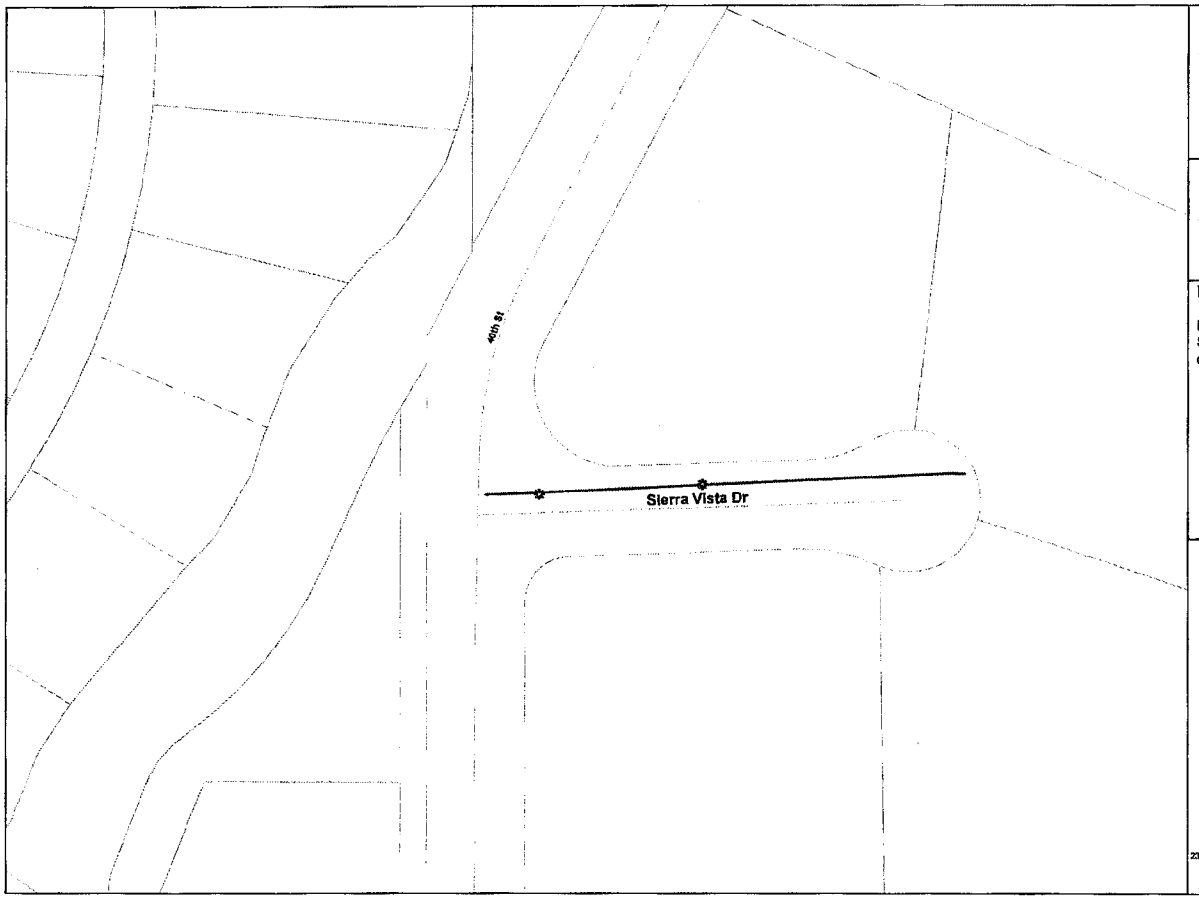
EPCOR WATER

Created: 2/14/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2019 WM-7**	Project Location: 68th Pl and Chaparral	
Project Description: Replace existing main on 68th Pl and Chaparral Rd with 525 feet of 6" main				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
525	linear feet	131	Contractor material and labor to install main and service connections	$ 68,775
1	lump sum	7,000	Consultant engineering design	$ 7,000
120	hours	35	Company labor for field oversight and inspections	$ 4,200
60	hours	45	Company labor for project management	$ 2,700
Subtotal				$ 82,675
General Overhead Rate on Labor and Capital (10%)				$ 8,268
Total Estimated Cost				**$ 90,943**



2019

Project No: WM-8 •
PWSID: 0407056

Paradise Valley

Project Area:

Sierra Vista Dr

Project Description:

Replace the existing main on Sierra Vista Dr with 246 LF of 4" main.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

20 10 0 20 40 60 80 Feet

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

EPCOR WATER

Created: 2/14/2014

EPCOR Water 2014 •

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

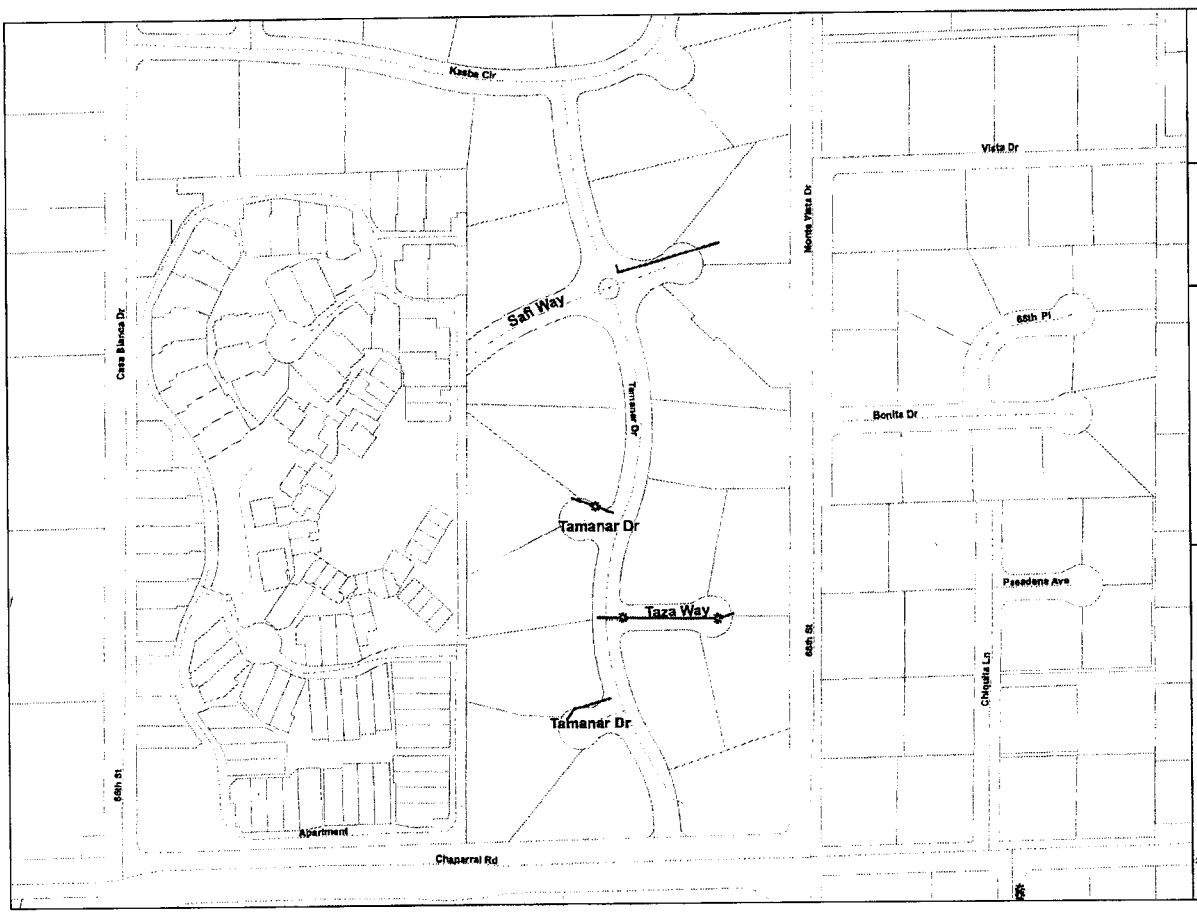
Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2019 WM-8**	Sierra Vista

Project Description:

Replace existing main on Sierra Vista Dr with 246 feet of 4" main.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
246	linear feet	122	Contractor material and labor to install main and service connections	$ 30,012
1	lump sum	3,000	Consultant engineering design	$ 3,000
70	hours	35	Company labor for field oversight and inspections	$ 2,450
30	hours	45	Company labor for project management	$ 1,350
Subtotal				$ 36,812
General Overhead Rate on Labor and Capital (10%)				$ 3,681
Total Estimated Cost				**$ 40,493**



2019

Project No: WM-9 •
PWSID: 0407056

Paradise Valley

Project Area:

Tamanar Dr

Project Description:

Replace the existing main in the cul-de-sacs onTamanar Dr with 655 LF of 4" main.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

70 35 0 70 140 210 280
Feet

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

EPCOR WATER

Created: 2/14/2014

EPCOR Water 2014 ©

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2019 WM-9**	Project Location: Tamanar Dr	

Project Description:

Replace existing main in four cul-de-sacs on Tamanar Dr with 655 feet of 4" main

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
655	linear feet	107	Contractor material and labor to install main and service connections	$ 70,085
1	lump sum	7,500	Consultant engineering design	$ 7,500
120	hours	35	Company labor for field oversight and inspections	$ 4,200
60	hours	45	Company labor for project management	$ 2,700
Subtotal				$ 84,485
General Overhead Rate on Labor and Capital (10%)				$ 8,449
Total Estimated Cost				**$ 92,934**

SECTION 1 – SERVICES

1.1 Overview

Based on the current customer count in EPCOR's Paradise Valley Water district, there are about 5,000 active service laterals. Most of these services were installed between 1950 and 1980. Replacement of service lines is a priority for a number of reasons, including the age of the service lines and the material of the pipe.

1.2 Nessie Curve

A "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it; this is to say when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

Exhibit 1-1 is the Nessie curve which was developed specifically for the service lines in EPCOR's Paradise Valley district. Exhibit 1-2 shows this same data in tabular format. The

[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

curve shows that indeed the cost of replacement will be the highest between now and 2030, as predicted by AWWA. It shows that in the next six years, from 2015 through 2020, approximately $5.3 million should be invested in service line replacements in order to offset the rate at which the services are failing. This equates to about 220 service replacements per year, or an investment of about $857,159 per year in service line replacements.

Exhibit 1-1 – Service Line Nessie Curve

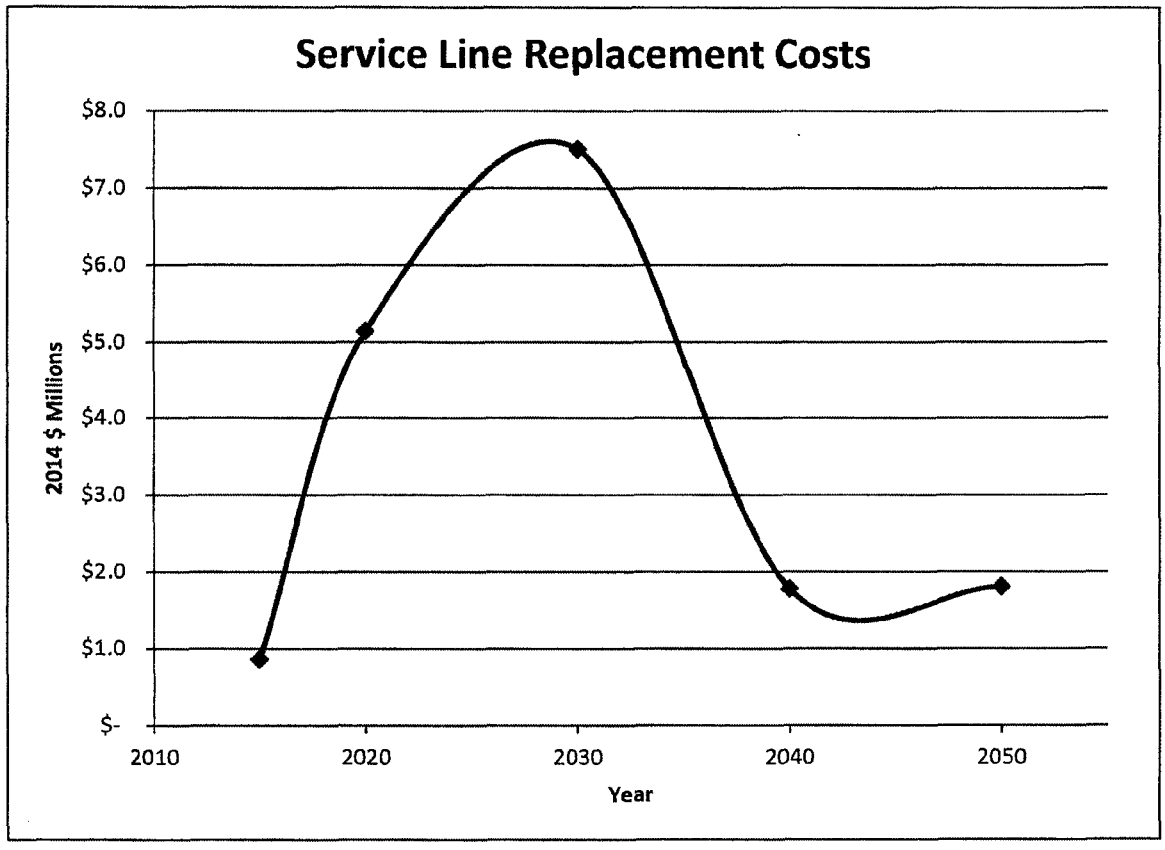


Exhibit 1-2 Nessie Curve Table

Time Frame	Number of Services to be Installed	Cost to Replace Services	Number of Service Replacements per Year	Cost per Year
today-2020	1320	$ 5,142,951	220	$ 857,159
2020-2030	1925	$ 7,500,204	192	$ 750,020
2030-2040	457	$ 1,779,537	46	$ 177,954
2040-2050	463	$ 1,803,215	46	$ 180,322

1.3 Service Line Material

The services to be replaced in Paradise Valley are galvanized steel pipe. Galvanized pipe is known to have a short lifetime, usually 25 to 40 years, according to the AWWA. Considering galvanized pipe was discontinued in use for water pipes in the 1970s, almost all galvanized pipe has reached the end of its useful life. As these pipes age, the zinc coating erodes from the pipe, leading to corrosion of other metals beneath the coating. Corrosion can build up on the inside walls of the pipes which can interfere with pressure and flow. Galvanized pipe also tends to corrode on the outside of the pipe in certain soil types. Exhibits 1-3, 1-4, and 1-5 are pictures of galvanized service lines found and replaced in the Paradise Valley district. A large number of service line failures and leaks contribute to unnecessary water loss and service disruptions. Oftentimes, the water from many service line leaks never surfaces because of the porous soil and leaks can go undetected until the line is uncovered much later.

Under the **Historical Repair/Replacement Data** tab there is a list of service repairs and replacements in 2012 and 2013. There were 293 service replacements during these two years; the large majority of these services were galvanized steel and the average age of the services replaced was about 52 years old. Approximately 30% of the system services are 52 years old or older.

Exhibit 1-3

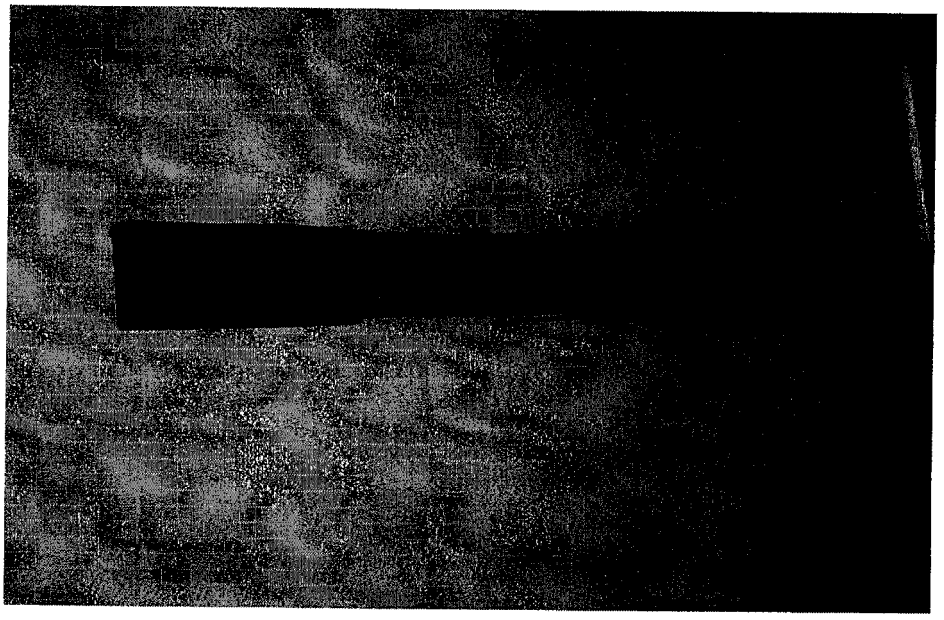


Exhibit 1-4

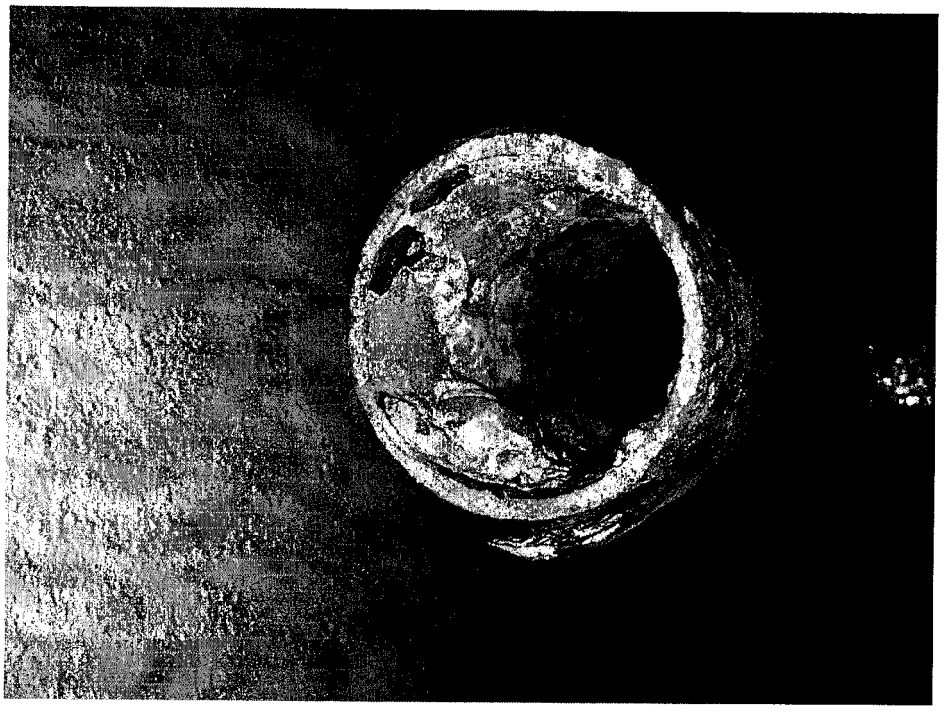
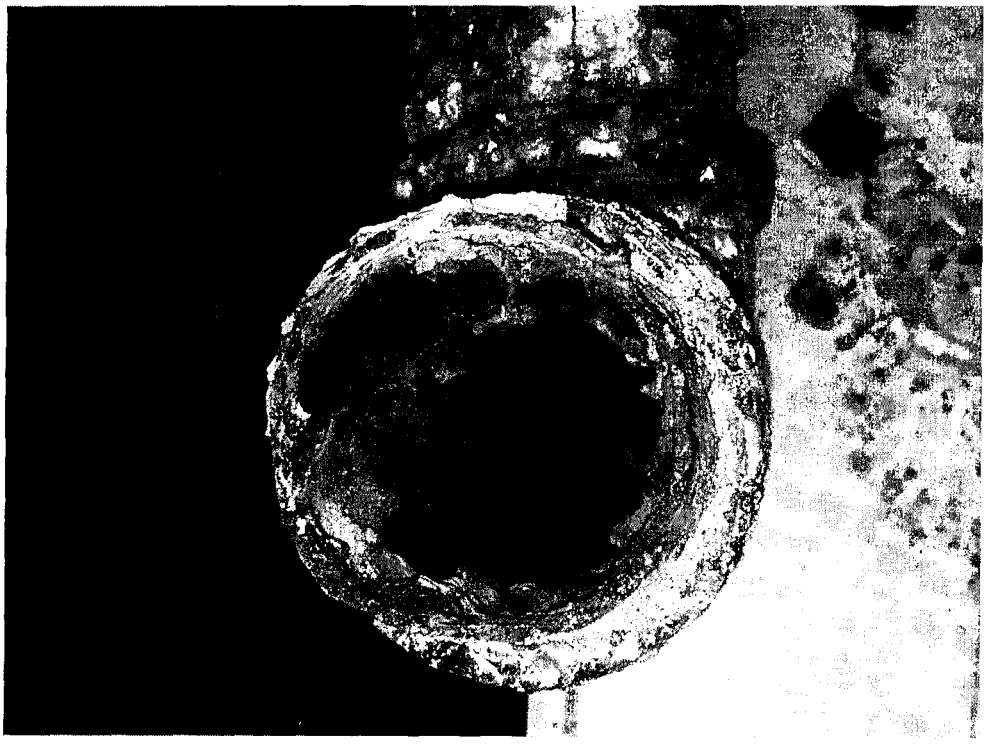


Exhibit 1-5



1.4 Service Line Replacements

Between 2015 and 2019, EPCOR's plan is to replace approximately 218 services per year at an average estimated cost per year of $850,000. The following map shows the locations of all the service line replacement projects. These projects are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019.** SIB Plant Table I, 1-1 through SIB Plant Table I, 1-5 provide detailed descriptions of each service line replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 1-1) through 2019 (Table I, 1-5). Each project addresses a set of service line replacements that will occur within a defined area. Each project can also be tied to a map showing the parcels where the proposed service lines will be replaced. A cost estimate for each project is also provided.

PARADISE VALLEY WATER SYSTEM - SERVICE REPLACEMENTS 2012-2013

ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
5434 E Lincoln Dr #17	1"	Galvanized	05/09/12	1953	45	36	Copper, fittings, backfill, paving
5434 E Lincoln Dr #18	1"	Galvanized	05/09/12	1959	45	0	Copper, fittings, backfill, paving
5030 E Valley Vista Ln	2"	Galvanized	05/17/12	1954	2	10	Copper, fittings, backfill, paving
5766 N Scottsdale Rd.	3/4"	Copper	05/18/12	1958	8	5	Copper, fittings, backfill, paving
7610 E McDonald Dr	1"	Galvanized	05/18/12	1951	25	63	Copper, fittings, backfill, paving
5335 N Invergordon	2"	Galvanized	05/21/12	1966	40	1	Copper, fittings, backfill, paving
4800 N 68th St	2"	Galvanized	05/22/12	1983	20	0	Copper, fittings, backfill, paving
7334 N Clearwater Pkwy	2"	Galvanized	06/06/12	1972	8	5	Copper, fittings, backfill, paving
7048 E McDonald	1"	Galvanized	06/11/12	1972	175	0	Copper, fittings, backfill, paving
7050 E McDonald	1"	Galvanized	06/11/12	1956	175	0	Copper, fittings, backfill, paving
5134 N 69th Pl	1"	Galvanized	06/26/12	1964	5	5	Copper, fittings, backfill, sidewalk
5144 N 69th Pl	1"	Galvanized	06/26/12	1953	5	5	Copper, fittings, backfill, sidewalk
6915 E Orange Blossom Ln	1"	Galvanized	06/26/12	1958	5	5	Copper, fittings, backfill, sidewalk
6923 E Orange Blossom Ln	1"	Galvanized	06/27/12	1978	5	5	Copper, fittings, backfill, sidewalk
6940 E Orange Blossom Ln	1"	Galvanized	06/27/12	1963	45	5	Copper, fittings, backfill, sidewalk
5635 E Lincoln Dr # 48	1"	Galvanized	06/28/12	1954	30	1	Copper, fittings, backfill, paving
5248 E Arroyo Rd	1"	Galvanized	07/17/12	1960	25	15	Copper, fittings, backfill, paving
5703 N Paradise View Dr	1"	Galvanized	07/24/12	1959	20	0	Copper, fittings, backfill
5805 N Sundown Dr	1"	Galvanized	07/24/12	1951	8	0	Copper, fittings, backfill
7416 E Palo Verde Dr	1"	Galvanized	07/24/12	1970	25	2	Copper, fittings, backfill
7501 E Palo Verde Dr	1"	Galvanized	07/24/12	1971	10	2	Copper, fittings, backfill
7503 E Palo Verde Dr	1"	Galvanized	07/24/12	1959	30	5	Copper, fittings, backfill
7505 E Palo Verde Dr	1"	Galvanized	07/24/12	1945	10	0	Copper, fittings, backfill
4501 E Maderos Del Cuenta Dr	1	Galvanized	07/25/12	1959	60	3	Copper, fittings, backfill, paving
6845 N Highland Dr	1"	Galvanized	07/25/12	1959	2	6	Copper, fittings, backfill
5302 N 69th Pl	1"	Galvanized	07/31/12	1959	15	10	Copper, fittings, backfill, paving
5721 N Casa Blanca Dr	2"	Galvanized	08/01/12	1959	20	15	Copper, fittings, backfill, paving
6547 N 60th St.	1"	Galvanized	08/14/12	1960	10	0	Copper, fittings, backfill, paving
5101 N 69th Pl	1"	Galvanized	08/20/12	1954	10	0	Copper, fittings, backfill, concrete
5117 N 69th Pl	1"	Galvanized	08/20/12	1978	10	0	Copper, fittings, backfill, concrete
6931 E Orange Blossom Ln	1"	Galvanized	08/20/12	1970	10	0	Copper, fittings, backfill, concrete
5031 E Orange Blossom Dr	1"	Galvanized	08/21/12	1970	50	0	Copper, fittings, backfill, concrete
5041 E Orange Blossom Dr	1"	Galvanized	08/21/12	1958	50	0	Copper, fittings, backfill, concrete
6923 E Orange Blossom Dr	1"	Galvanized	08/22/12	1951	50	0	Copper, fittings, backfill, concrete
6924 E Orange Blossom Dr	1	Galvanized	08/22/12	1956	10	0	Copper, fittings, backfill, concrete
6934 E Orange Blossom Dr	1	Galvanized	08/22/12	1970	10	0	Copper, fittings, backfill, concrete
6902 E Orange Blossom Dr	1	Galvanized	08/23/12	1950	20	0	Copper, fittings, backfill, paving
6912 E Orange Blossom Dr	1	Galvanized	08/23/12	1953	20	0	Copper, fittings, backfill, concrete
6915 E Orange Blossom Dr	1	Galvanized	08/23/12	1959	45	0	Copper, fittings, backfill, concrete
5023 N 69th Pl	1	Galvanized	08/24/12	1959	45	0	Copper, fittings, backfill, concrete
6901 E Orange Blossom Dr	1	Galvanized	08/24/12	1959	55	0	Copper, fittings, backfill, concrete
5013 N 69th Pl	1	Galvanized	08/27/12	1959	45	0	Copper, fittings, backfill, concrete
6931 E Pasadena Ave	1	Galvanized	08/27/12	1959	10	0	Copper, fittings, backfill, concrete

PARADISE VALLEY WATER SYSTEM - SERVICE REPLACEMENTS 2012-2013

ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
6934 E Pasadena Ave	1	Galvanized	08/27/12	1959	10	0	Copper, fittings, backfill, concrete
6912 E Pasadena Ave	1	Galvanized	08/28/12	1959	10	0	Copper, fittings, backfill, concrete
6924 E Pasadena Ave	1	Galvanized	08/28/12	1959	10	0	Copper, fittings, backfill, concrete
6915 E Pasadena Ave	1	Galvanized	08/29/12	1959	45	0	Copper, fittings, backfill, concrete
6923 E Pasadena Ave	1	Galvanized	08/29/12	1959	45	0	Copper, fittings, backfill, concrete
6901 E Pasadena Ave	1	Galvanized	08/30/12	1959	55	0	Copper, fittings, backfill, paving
6902 E Pasadena Ave	1	Galvanized	08/30/12	1959	10	0	Copper, fittings, backfill, concrete
5201 N 69th Pl	1	Galvanized	08/31/12	1959	45	0	None
5214 N 69th Pl	1	Galvanized	08/31/12	1959	45	0	None
5215 N 69th Pl	1"	Galvanized	09/04/12	1959	45	1	Copper, fittings, backfill
5227 N 69th Pl	1"	Galvanized	09/04/12	1959	45	0	Copper, fittings, backfill
7501 N Red Ledge Dr	1"	Galvanized	09/04/12	1959	3	15	Copper, fittings, backfill
5214 N 69th Pl	1"	Galvanized	09/05/12	1959	15	0	Copper, fittings, backfill
5226 N 69th Pl	1"	Galvanized	09/05/12	1959	15	0	Copper, fittings, backfill
7321 E McLellan Blvd	1"	Galvanized	09/05/12	1959	1	1	Copper, fittings, backfill
5238 N 69th Pl	1"	Galvanized	09/06/12	1956	45	1	Copper, fittings, backfill
5239 N 69th Pl	1"	Galvanized	09/06/12	1956	15	0	Copper, fittings, backfill
5301 N 69th Pl	1"	Galvanized	09/06/12	1964	45	0	Copper, fittings, backfill
6935 E Jackrabbit Rd	1"	Galvanized	09/06/12	1956	45	0	Copper, fittings, backfill
5314 N 69th Pl	1"	Galvanized	09/07/12	1956	15	1	Copper, fittings, backfill
5315 N 69th Pl	1"	Galvanized	09/07/12	1974	15	0	Copper, fittings, backfill
5434 E Lincoln #19	1"	Galvanized	09/11/12	1956	10	2	Copper, fittings, backfill
5520 E Palo Verde Dr	1"	Galvanized	09/11/12	1956	1	1	Copper, fittings, backfill
6121 N 52nd Pl	1"	Galvanized	09/11/12	1956	15	0	Copper, fittings, backfill
4010 E Canyon Ct	1"	Galvanized	09/12/12	1956	2	5	Copper, fittings, backfill
5840 N 70th Pl	1"	Galvanized	09/17/12	1956	45	4	Copper, fittings, backfill
6719 E Malcomb Dr	2"	Galvanized	10/02/12	1956	20	5	Copper, fittings, backfill
N Scottsdale Rd & Rose Ln	2"	Galvanized	10/02/12	1956	60'	0	Copper, fittings, backfill, paving
5204 E San Juan Ave	1"	Galvanized	10/03/12	1956	20	1	Copper, fittings, backfill
5607 N Quail Run Rd	1"	Galvanized	10/08/12	1959	10	1	Copper, fittings, backfill
7002 E San Miguel Ave	1"	Galvanized	10/08/12	1995	50	1	Copper, fittings, backfill
7015 E San Miguel Ave	1"	Galvanized	10/08/12	1961	10	1	Copper, fittings, backfill
5723 N 70th Pl	1"	Galvanized	10/09/12	1959	10	1	Copper, fittings, backfill
7018 E San Miguel Ave	1"	Galvanized	10/09/12	1954	50	1	Copper, fittings, backfill
5741 N 70th Pl	1"	Galvanized	10/10/12	1955	50	1	Copper, fittings, backfill
5801 N 70th Pl	1"	Galvanized	10/10/12	1959	10	1	Copper, fittings, backfill
5812 N 70th Pl	1"	Galvanized	10/10/12	1959	50	1	Copper, fittings, backfill
5437 E McDonald	2"	Galvanized	10/17/12	1959	40	1	Copper, fittings, backfill
7609 E Indian Bend	1"	Galvanized	10/18/12	1959	40	1	Copper, fittings, backfill
7609 E Indian Bend	2"	Galvanized	10/19/12	1959	40	1	Copper, fittings, backfill
4031 E Desert Crest	1"	Galvanized	10/20/12	1959	5	2	Copper, fittings, backfill
5017 E 71st Pl	1"	Galvanized	10/21/12	1959	40	1	Copper, fittings, backfill
7516 Sundown	1"	Galvanized	10/25/12	1959	10	1	Copper, fittings, backfill

PARADISE VALLEY WATER SYSTEM - SERVICE REPLACEMENTS 2012-2013

ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
6697 E Cactus Wren	1"	Galvanized	10/26/12	1959	65	1	Copper, fittings, backfill
7028 E Palo Verde	1"	Galvanized	10/29/12	1956	60	2	Copper, fittings, backfill
7040 E Palo Verde	1"	Galvanized	10/29/12	1956	10	2	Copper, fittings, backfill
5833 N 70th Pl	1"	Galvanized	10/30/12	1960	10	1	Copper, fittings, backfill
7007 E Palo Verde Ln	1"	Galvanized	10/30/12	1951	50	1	Copper, fittings, backfill
7014 E Palo Verde Ln	1"	Galvanized	10/30/12	1956	50	1	Copper, fittings, backfill
5901 N Quail Run Rd	1"	Galvanized	10/31/12	1959	10	1	Copper, fittings, backfill
6033 N Mockingbird Ln	1"	Galvanized	10/31/12	1959	10	1	Copper, fittings, backfill
6828 E Valley Vista Ln	1"	Galvanized	10/31/12	1959	10	1	Copper, fittings, backfill
6822 E Valley Vista Ln	1"	Galvanized	11/01/12	1959	10	0	Copper, fittings, backfill, paving
6824 E Valley Vista Ln	1"	Galvanized	11/01/12	1959	20	5	Copper, fittings, backfill, paving
6820 E Valley Vista Ln	1"	Galvanized	11/02/12	1959	30	1	Copper, fittings, backfill, paving
6823 E Valley Vista Ln	1"	Galvanized	11/02/12	1960	15	1	Copper, fittings, backfill, paving
6812 E Valley Vista Ln	1"	Galvanized	11/05/12	1960	10	1	Copper, fittings, backfill, paving
6814 E Valley Vista Ln	1"	Galvanized	11/05/12	1960	10	1	Copper, fittings, backfill, paving
6816 E Valley Vista Ln	1"	Galvanized	11/05/12	1960	10	1	Copper, fittings, backfill, paving
6807 E Valley Vista Ln	1"	Galvanized	11/07/12	1960	30	1	Copper, fittings, backfill, paving
6808 E Valley Vista Ln	1"	Galvanized	11/07/12	1960	8	1	Copper, fittings, backfill, paving
6810 E Valley Vista Ln	1"	Galvanized	11/07/12	1960	10	1	Copper, fittings, backfill, paving
6804 E Valley Vista Ln	1"	Galvanized	11/08/12	1960	10	1	Copper, fittings, backfill, paving
6805 E Valley Vista Ln	1"	Galvanized	11/08/12	1960	30	1	Copper, fittings, backfill, paving
6806 E Valley Vista Ln	1"	Galvanized	11/08/12	1960	10	1	Copper, fittings, backfill, paving
6739 E Valley Vista Ln	1"	Galvanized	11/09/12	1960	40	1	Copper, fittings, backfill, paving
6740 E Valley Vista Ln	1"	Galvanized	11/09/12	1960	10	2	Copper, fittings, backfill, paving
6709 E Valley Vista Ln	1"	Galvanized	11/12/12	1960	40	1	Copper, fittings, backfill, paving
6730 E Valley Vista Ln	1"	Galvanized	11/12/12	1960	10	1	Copper, fittings, backfill, paving
6810 E Valley Vista Ln	1"	Galvanized	11/13/12	1969	50	1	Copper, fittings, backfill, paving
6719 E Malcomb Dr	1"	Galvanized	11/14/12	1969	25	2	Copper, fittings, backfill, paving
6006 N Kachina Ln	1"	Galvanized	11/15/12	1969	10	2	Copper, fittings, backfill, paving
6009 N Kachina Ln	1"	Galvanized	11/15/12	1969	50	1	Copper, fittings, backfill, paving
6016 N Kachina Ln	1"	Galvanized	11/16/12	1960	15	1	Copper, fittings, backfill, paving
6029 N Kachina Ln	1"	Galvanized	11/16/12	1954	50	1	Copper, fittings, backfill, paving
5801 E Yucca St	2"	Galvanized	01/02/13	1957	10	50	Copper, fittings, backfill, paving
7300 E McDonald Dr	2"	Galvanized	01/09/13	1957	10	10	Copper, fittings, backfill, paving
7300 E McDonald Dr	3/4"	Galvanized	01/13/13	1957	0	1	Angle Meter Stop
6602 E San Miguel Ave	1"	Galvanized	01/24/13	1957	15	10	Copper, fittings, backfill, paving
6004 N 52nd St	1"	Galvanized	01/29/13	1960	3	25	Copper, fittings, backfill, paving
5525 E Lincoln Dr #82	1"	Galvanized	02/25/13	1946	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #83	1"	Galvanized	02/25/13	1955	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #116	1"	Galvanized	02/26/13	1967	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #81	1"	Galvanized	02/26/13	1958	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #117	1"	Galvanized	02/28/13	1960	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #80	1"	Galvanized	02/28/13	1961	10	1	Copper, fittings, backfill, paving

PARADISE VALLEY WATER SYSTEM - SERVICE REPLACEMENTS 2012-2013

ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
6028 N 62nd Pl	1"	Galvanized	02/28/13	1958	1	1	Copper, fittings, backfill, paving
5525 E Lincoln #119	1"	Galvanized	03/01/13	1965	25	1	Copper, fittings, backfill, paving
5525 E Lincoln #77	1"	Galvanized	03/01/13	1965	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #78	1"	Galvanized	03/01/13	1959	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #88	1"	Galvanized	03/02/13	1961	10	1	Copper, fittings, backfill, paving
7522 E McDonald Dr	1"	Galvanized	03/02/13	1970	20	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #120	1"	Galvanized	03/04/13	1970	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #121	1"	Galvanized	03/04/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #76	1"	Galvanized	03/04/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #122	1"	Galvanized	03/05/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #75	1"	Galvanized	03/05/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #123	1"	Galvanized	03/06/13	1995	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #73	1"	Galvanized	03/06/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #74	1"	Galvanized	03/06/13	1957	10	1	Copper, fittings, backfill, paving
5338 E Camelback Manor Dr	1"	Galvanized	03/07/13	1957	40	25	Copper, fittings, backfill, paving
5525 E Lincoln Dr #71	1"	Galvanized	03/07/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #72	1"	Galvanized	03/07/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #103	1"	Galvanized	03/11/13	1960	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #124	1"	Galvanized	03/11/13	1953	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr	1"	Galvanized	03/12/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #101	1"	Galvanized	03/12/13	1960	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #102	1"	Galvanized	03/13/13	1956	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #95	1"	Galvanized	03/13/13	1956	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #97	1"	Galvanized	03/13/13	1956	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #105	1"	Galvanized	03/14/13	1956	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #93	1"	Galvanized	03/14/13	1960	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #94	1"	Galvanized	03/14/13	1960	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #106	1"	Galvanized	03/15/13	1959	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #107	1"	Galvanized	03/15/13	1957	25	1	Copper, fittings, backfill, paving
5801 N Scottsdale Rd	2"	Galvanized	03/15/13	1957	15	25	Copper, fittings, backfill, paving
5525 E Lincoln Dr #108	1"	Galvanized	03/18/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #127	1"	Galvanized	03/18/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #128	1"	Galvanized	03/18/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln #129	1"	Galvanized	03/19/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #91	1"	Galvanized	03/19/13	1983	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #86	1"	Galvanized	03/20/13	1983	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #90	1"	Galvanized	03/20/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #92	1"	Galvanized	03/20/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr # 112	1"	Galvanized	03/21/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #109	1"	Galvanized	03/21/13	1957	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #84	1"	Galvanized	03/21/13	1957	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #99	1"	Galvanized	03/21/13	1956	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #110	1"	Galvanized	03/25/13	1956	25	1	Copper, fittings, backfill, paving

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ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
5525 E Lincoln Dr #113	1"	Galvanized	03/25/13	1956	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #114	1"	Galvanized	03/25/13	1956	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #87	1"	Galvanized	03/25/13	1956	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr	1"	Galvanized	03/26/13	1957	30	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #111	1"	Galvanized	03/26/13	1971	25	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #69	1"	Galvanized	03/26/13	1958	10	1	Copper, fittings, backfill, paving
5525 E Lincoln Dr #85	1"	Galvanized	03/26/13	1959	10	1	Copper, fittings, backfill, paving
5434 E Lincoln Dr # 39	1"	Galvanized	04/15/13	1958	10	1	Copper, fittings, backfill, paving
6120 N 52nd Pl	1"	Galvanized	04/15/13	1960	1	1	Copper, fittings, backfill, paving
5915 Joshua Tree Ln	1.5"	Galvanized	04/18/13	1975	1	1	Copper, fittings, backfill, paving
6311 N 46th St	1"	Galvanized	04/22/13	1980	40	1	Copper, fittings, backfill, paving
6034 Kachina Ln	1"	Galvanized	04/23/13	1957	25	1	Copper, fittings, backfill, paving
6050 Kachina Ln	1"	Galvanized	04/23/13	1962	20	1	Copper, fittings, backfill, paving
6110 Kachina Ln	1"	Galvanized	04/24/13	1962	20	1	Copper, fittings, backfill, paving
6126 Kachina Ln	1"	Galvanized	04/24/13	1962	20	1	Copper, fittings, backfill, paving
6500 E Valley Vista Dr	1"	Galvanized	04/24/13	1953	20	1	Copper, fittings, backfill, paving
4600 E 68th Pl	2"	Galvanized	05/01/13	1953	15	1	Copper, fittings, backfill, paving
4600 E 68th Pl	2"	Galvanized	05/02/13	1953	20	1	Copper, fittings, backfill, paving
4600 E 68th Pl	2"	Galvanized	05/03/13	1953	15	1	Copper, fittings, backfill, paving
5102 N 66th St	1"	Galvanized	05/07/13	1953	20	1	Copper, fittings, backfill, paving
5816 N 66th St	1"	Galvanized	05/08/13	1987	20	1	Copper, fittings, backfill, paving
5128 N 66th St	1"	Galvanized	05/09/13		40	1	Copper, fittings, backfill, paving
6522 N 66th St	1"	Galvanized	05/10/13	1968	40	1	Copper, fittings, backfill, paving
6525 N 66th St	1"	Galvanized	05/10/13	1961	15	1	Copper, fittings, backfill, paving
6120 E Redwing Rd	1"	Galvanized	05/13/13	1970	20	1	Copper, fittings, backfill, paving
6048 E Lincoln Dr	1"	Galvanized	05/14/13	1959	40	1	Copper, fittings, backfill, paving
6102 N 61st St	1"	Galvanized	05/14/13	1958	20	1	Copper, fittings, backfill, paving
6524 N 61st St.	1	Galvanized	05/15/13	1958	40	1	Copper, fittings, backfill, paving
6525 N 61st St.	1"	Galvanized	05/15/13	1958	15	1	Copper, fittings, backfill, paving
6107 N 61st St.	1"	Galvanized	05/16/13	1958	15	1	Copper, fittings, backfill, paving
6535 N 61st St.	1"	Galvanized	05/16/13	1958	15	1	Copper, fittings, backfill, paving
6530 N 61st St.	1"	Galvanized	05/17/13	1958	4	1	Copper, fittings, backfill, paving
5302 N 68th Pl	1"	Galvanized	05/24/13	1958	40	1	Copper, fittings, backfill, paving
5305 N 68th Pl	1"	Galvanized	05/24/13	1958	10	1	Copper, fittings, backfill, paving
5539 N 68th Pl	1"	Galvanized	06/03/13	1958	20	2	Copper, fittings, backfill, paving
5607 N 68th Pl	1"	Galvanized	06/03/13	1959	20	2	Copper, fittings, backfill, paving
5623 N 68th Pl	1"	Galvanized	06/04/13	1959	20	2	Copper, fittings, backfill, paving
5639 N 68th Pl	1"	Galvanized	06/04/13	1959	20	2	Copper, fittings, backfill, paving
6815 E Vermont	1"	Galvanized	06/05/13	1959	20	2	Copper, fittings, backfill, paving
6827 E Vermont	1"	Galvanized	06/05/13	1952	20	2	Copper, fittings, backfill, paving
5833 N Quail Run	1"	Galvanized	06/07/13	1959	60	2	Copper, fittings, backfill, paving
6257 E Joshua Tree	1"	Galvanized	06/10/13	1959	60	2	Copper, fittings, backfill, paving
6264 E Joshua Tree Ln	1"	Galvanized	06/10/13	1960	20	2	Copper, fittings, backfill, paving

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ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
6227 E Joshua Tree Ln	1"	Galvanized	06/11/13	1958	60	2	Copper, fittings, backfill, paving
6246 E Joshua Tree Ln	1"	Galvanized	06/11/13	1959	20	2	Copper, fittings, backfill, paving
6222 E Joshua Tree Ln	1"	Galvanized	06/12/13	1959	20	2	Copper, fittings, backfill, paving
6300 E Joshua Tree Ln	1"	Galvanized	06/12/13	1959	60	2	Copper, fittings, backfill, paving
6203 E Joshua Tree	1"	Galvanized	06/13/13	1959	60	2	Copper, fittings, backfill, paving
6204 E Joshua Tree Ln	1"	Galvanized	06/13/13	1959	20	2	Copper, fittings, backfill, paving
6724 N 62nd St	1"	Galvanized	06/14/13	1965	20	2	Copper, fittings, backfill, paving
6145 E Joshua Tree Ln	1"	Galvanized	06/17/13	1958	20	2	Copper, fittings, backfill, paving
6721 N 62nd St	1"	Galvanized	06/17/13	1965	60	2	Copper, fittings, backfill, paving
6140 E Joshua Tree Ln	1"	Galvanized	06/18/13	1982	60	2	Copper, fittings, backfill, paving
6216 E Cactus Wren Rd	1"	Galvanized	06/21/13	1961	60	2	Copper, fittings, backfill, paving
6726 N 63rd St	1"	Galvanized	06/24/13	1982	60	2	Copper, fittings, backfill, paving
6744 N 63rd St	1"	Galvanized	06/26/13	1961	60	2	Copper, fittings, backfill, paving
7330 E Palo Verde Dr	1"	copper	07/12/13	1961	30	3	Copper, fittings, backfill, paving
5713 N Cattletrack Rd	1"	galvanized	07/23/13	1961	10	3	Copper, fittings, backfill, paving
6130 N Camelback Manor Dr	1"	galvanized	07/23/13	1961	40	3	Copper, fittings, backfill, paving
6308 E Joshua Tree Ln	1"	galvanized	07/24/13	1961	40	3	Copper, fittings, backfill, paving
6326 E Joshua Tree Ln	1"	galvanized	07/24/13	1961	40	3	Copper, fittings, backfill, paving
5644 E Cactus Wren Rd	1"	galvanized	07/25/13	1961	30	3	Copper, fittings, backfill, paving
6344 E Joshua Tree Ln	1"	galvanized	07/25/13	1961	12	3	Copper, fittings, backfill, paving
6727 N 63rd Pl	1"	galvanized	07/25/13	1961	30	3	Copper, fittings, backfill, paving
6116 E Cactus Wren Rd	1"	galvanized	07/26/13	1961	30	3	Copper, fittings, backfill, paving
5505 E San Miguel Ave	1"	POLY	07/30/13	1961	10	3	Copper, fittings, backfill, paving
6920 E Desert Hills	1"	Galvanized	08/13/13	1961	40	3	Copper, fittings, backfill, paving
6736 E Desert Hills	1"	Galvanized	08/16/13	1961	40	3	Copper, fittings, backfill, paving
6211 E Redwing Rd	1"	Galvanized	08/20/13	1961	40	3	Copper, fittings, backfill, paving
5725 N Scottsdale Rd	1'	Galvanized	08/21/13	1961	4	3	Copper, fittings, backfill, paving
6200 E Redwing Rd	1"	Galvanized	08/21/13	1961	20	3	Copper, fittings, backfill, paving
6217 E Redwing Rd	1"	Galvanized	08/21/13	1961	30	3	Copper, fittings, backfill, paving
5828 E Cactus Wren Rd	1"	Galvanized	08/22/13	1961	40	3	Copper, fittings, backfill, paving
5841 Cactus Wren Rd	1"	Galvanized	08/22/13	1961	30	3	Copper, fittings, backfill, paving
5901 E Cactus Wren Rd	1"	Galvanized	08/23/13	1961	40	3	Copper, fittings, backfill, paving
5902 E Cactus Wren Rd	1"	Galvanized	08/23/13	1961	25	3	Copper, fittings, backfill, paving
5915 E Cactus Wren Rd	1"	Galvanized	08/23/13	1961	25	3	Copper, fittings, backfill, paving
5828 E Indian Bend Rd	1"	Galvanized	08/27/13	1961	20	3	Copper, fittings, backfill, paving
6207 N Cattletrack Rd	1"	Galvanized	08/29/13	1961	40	3	Copper, fittings, backfill, paving
5604 N Scottsdale Rd	1"	Galvanized	09/18/13	1961	25'	1	Copper, fittings, backfill, paving
7046 N 59th Pl	1"	Galvanized	10/04/13	1961	30'	5	Copper, fittings, backfill, paving
4800 N 68th St	2"	Galvanized	10/21/13	1961	10'	5	Copper, fittings, backfill, paving
7319 N Clearwater Pk way	1"	Galvanized	10/25/13	1961	55'	5	Copper, fittings, backfill, paving
6535 N Hillside Dr	1"	Galvanized	11/07/13	1961	15	4	Copper, fittings, backfill, paving
6549 N Hillside Dr	1"	Galvanized	11/07/13	1961	10	4	Copper, fittings, backfill, paving
6606 N Hillside Dr	1"	Galvanized	11/08/13	1961	60	4	Copper, fittings, backfill, paving

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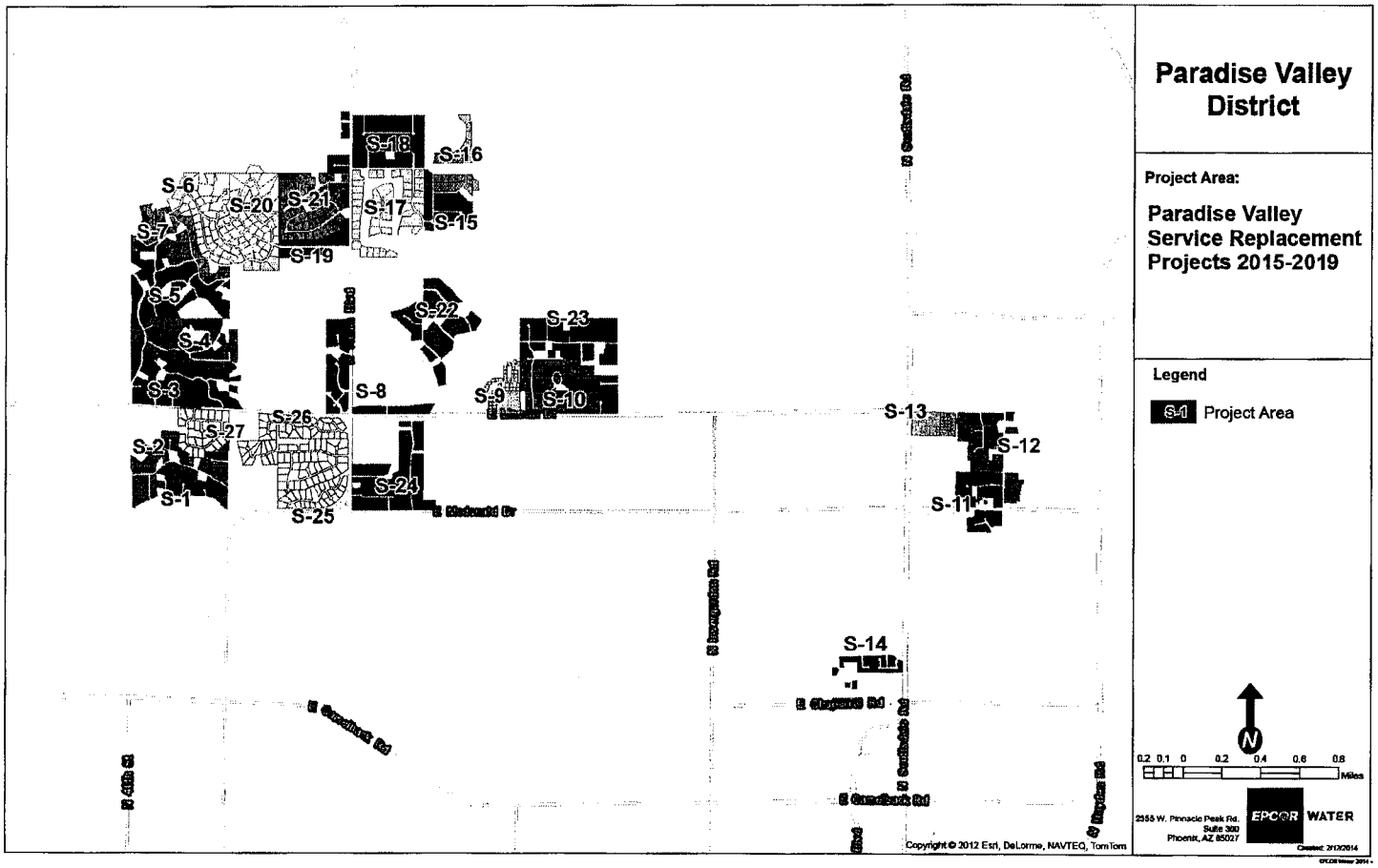
ADDRESS	SIZE	ORIGINAL MATERIAL	REPLACEMENT DATE	INSTALL YEAR	FEET INSTALLED	WATER LOSS (KGAL)	NOTES
6611 N Hillside Dr	1"	Galvanized	11/08/13	1961	10	4	Copper, fittings, backfill, paving
6653 N Hillside Dr	1"	Galvanized	11/08/13	1961	10	4	Copper, fittings, backfill, paving
6528 N Hillside Dr	1"	Galvanized	11/11/13	1961	10	4	Copper, fittings, backfill, paving
6711 N Hillside Dr	1"	Galvanized	11/11/13	1961	60	4	Copper, fittings, backfill, paving
6632 N Hillside Dr	1"	Galvanized	11/12/13	1961	60	4	Copper, fittings, backfill, paving
6635 N Hillside Dr	1"	Galvanized	11/12/13	1961	25	4	Copper, fittings, backfill, paving
4510 E Joshua Tree Ln	1"	Galvanized	11/13/13	1961	28	4	Copper, fittings, backfill, paving
4551 E Joshua Tree Ln	1"	Galvanized	11/13/13	1961	12	4	Copper, fittings, backfill, paving
4520 E Joshua Tree Ln	1"	Galvanized	11/19/13	1961	10	4	Copper, fittings, backfill, paving
4535 E Joshua Tree Ln	1"	Galvanized	11/19/13	1961	50	4	Copper, fittings, backfill, paving
4545 E Joshua Tree Ln	1"	Galvanized	11/20/13	1961	50	4	Copper, fittings, backfill, paving
4510 E Indian Bend Ln	1"	Galvanized	11/21/13	1961	60	4	Copper, fittings, backfill, paving
4530 E Indian Bend Ln	1"	Galvanized	11/21/13	1961	10	4	Copper, fittings, backfill, paving
6601 N 40th St	1"	Galvanized	11/25/13	1961	10	4	Copper, fittings, backfill, paving
7437 E Barridge Ln	1"	Galvanized	11/25/13	1961	6	4	Copper, fittings, backfill, paving
4511 E Indian Bend Rd	1"	Galvanized	11/26/13	1961	45	4	Copper, fittings, backfill, paving
4520 E Indian Bend Rd	1"	Galvanized	11/26/13	1961	20	4	Copper, fittings, backfill, paving
6867 N Hillside Dr	1"	Galvanized	11/27/13	1961	20	4	Copper, fittings, backfill, paving
4433 E Crystal Ln	1"	Galvanized		1961	23	18	Copper, fittings, backfill, paving
4811 N 68th Pl	1"	Galvanized		1961	14	0	Copper, fittings, backfill, paving
4820 N 68th Pl	1"	Galvanized		1966	45	10	Copper, fittings, backfill
4824 E Moonlight Way	1"	Galvanized		1961	1	25	Copper, fittings, backfill
5049 E Desert Park Ln	2"	Galvanized		1961	9	12	Copper, fittings, backfill, paving
5242 E Arroyo Rd	1"	Galvanized		1960	12	5	Copper, fittings, backfill, paving
5635 E Lincoln # 48	3/4"	Nothing retired, extended service		1959	25	0	Copper, fittings, backfill
6032 E Lincoln Dr	1	Galvanized		1959	15	150	Copper, fittings, backfill, paving
6206 N Mockingbird Ln	1"	Galvanized		1959	50		Copper, fittings, backfill, paving
6215 N 51st Pl	1"	Galvanized		1954	20	2	Copper, fittings, backfill
6310 N 47th Pl	1"	Galvanized		1954	30	4	Copper, fittings, backfill
6311 N 47th Pl	1"	Galvanized		1954	30	4	Copper, fittings, backfill
6400 E Joshua Tree Ln	2"	Poly		1959	5	0	Copper, fittings, backfill, paving
6710 N Desert Fairways Dr	1"	Galvanized		1956	20	5	Copper, fittings, backfill
6911 E Chaparral Rd	1"	Galvanized		1956	36	18	Copper, fittings, backfill
6928 E Orange Blossom Ln	1"	Galvanized		1960	30	4	Copper, fittings, backfill
7024 E Orange Blossom Ln	1"	Galvanized		1959	48	1	Copper, fittings, backfill, paving


S-18
S-16
S-6
S-20
S-21
S-17
S-15
S-7
S-19
S-5
S-22
S-23
S-4
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S-9
S-10
S-26
S-13
S-27
S-12
S-2
S-24
S-11
S-1
S-25
S-14
Copyright © 2012 Esri, DeLorme, NAVTEQ, TomTom
Paradise Valley District
Project Area:
Paradise Valley Service Replacement Projects 2015-2019
Legend
S-1 Project Area
N
0.2 0.1 0 0.2 0.4 0.6 0.8
Miles
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER

Paradise Valley – PWS ID No. 0407056

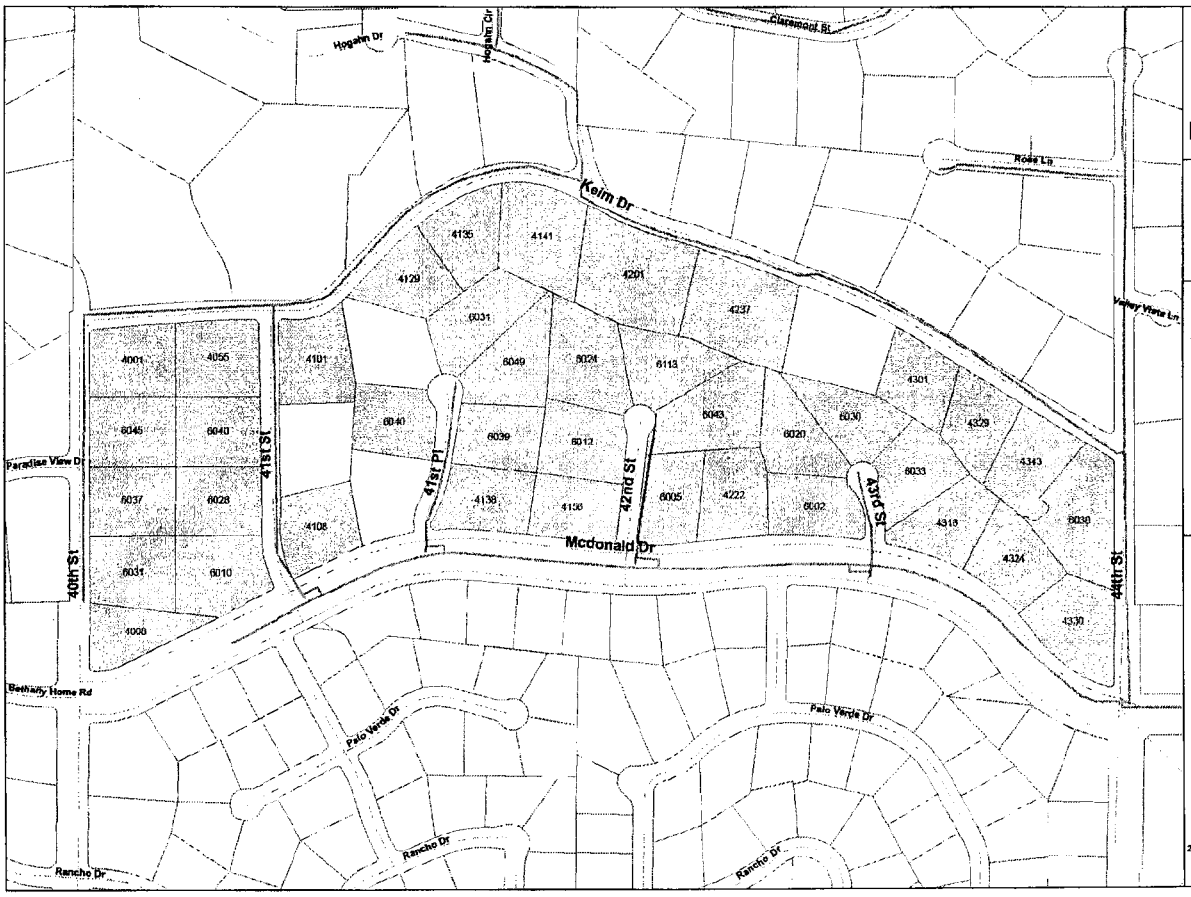
SIB PLANT TABLE I, 1-1

2015 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	333	service lines	39	33-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Keim Dr	12/2015	n/a	$151,879	Replace 33-1", 4-1.5", and 2-2" (39 total) residential services between McDonald Dr, Keim Dr, 40th St, and 44th St. These services are a priority for replacement because they are galvanized steel pipe and will be about 58 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-1 in Exhibit CC-1-C for more detail.
S-2	333	service lines	23	18-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Hoghan Dr	12/2015	n/a	$89,720	Replace 18-1", 3-1.5", and 2-2" (23 total) residential services north of Keim Dr between 44th St and 40th St. These services are a priority for replacement because they are galvanized steel pipe and will be about 58 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth See Section 1 narrative and Map No. S-2 in Exhibit CC-1-C for more detail.

S-3	333	service lines	55	52-1" 3-1.5"	Copper	1"-$3,881 1.5"-$3,947	Lincoln Dr	12/2015	n/a	$213,642	Replace 52-1" and 3-1.5" (55 total) residential services north of Lincoln Dr between 40th St and Hillside Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth See Section 1 narrative and Map No. S-3 in Exhibit CC-1-C for more detail.
S-4	333	service lines	45	37-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Highlands Dr	12/2015	n/a	$175,362	Replace 37-1", 5-1.5", and 3-2" (45 total) residential services on Highlands Dr and Lamar Rd between 40th St and Hillside Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-4 in Exhibit CC-1-C for more detail.
S-5	333	service lines	47	39-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Upper Ridge Way	12/2015	n/a	$183,124	Replace 39-1", 5-1.5", and 3-2" (47 total) residential services on Lakeside Ln and Sandy Mountain Rd between 40th St and Upper Ridge Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2015. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-5 in Exhibit CC-1-C for more detail.
Total			209							$813,727	



2015

Project No: S-1 •
PWSID: 0407056

Paradise Valley District

Project Area:

Keim Dr

Project Description:

Replace the following services:
4 residential services on Mcdonald Dr
2 residential services on 44th St
4 residential services on 43rd St
5 residential services on 42nd St
5 residential services on 41st Pl
4 residential services on 41st St
4 residential services on 40th St
11 residential services on Keim Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

90 45 0 90 180 270 360 Feet

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

EPCOR WATER

Created: 2/10/2014

EPCOR Water 2014 -

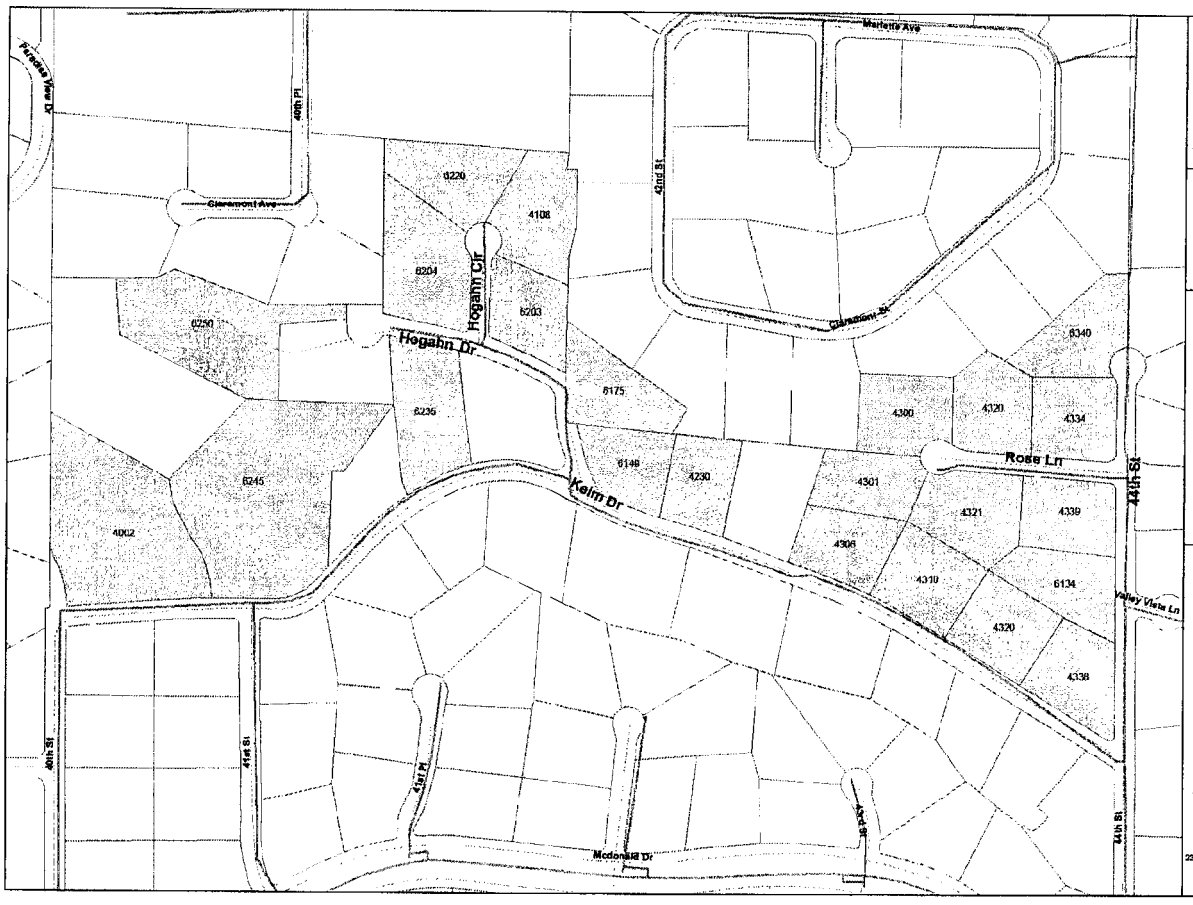
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2015 S-1**	Project Location: Keim Dr, McDonald Dr, 44th St, 43rd St, 42nd St, 41st, Pl, 41st St, 40th St	

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
33	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 115,500
4	1.5" service	3,560	Contractor material and labor to replace 1.5" residential services	$ 14,240
2	2" service	3,620	Contractor material and labor to replace 2" residential services	$ 7,240
39	hour	28	Company labor for field oversight and construction management	$ 1,092
Subtotal				$ 138,072
General Overhead Rate on Labor and Capital (10%)				$ 13,807
Total Estimated Cost				**$ 151,879**



2015

Project No: S-2 ▪
PWSID: 0407056

Paradise Valley District

Project Area:

Hogahn Dr

Project Description:

Replace the following services:
4 residential services on Hogahn Dr
4 residential services on Hogahn Cir
7 residential services on Kelm Dr
2 residential services on 44th St
6 residential services on Rose Ln

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

90 45 0 90 180 270 360 Feet

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

EPCOR WATER

Created: 2/4/2014

EPCOR Water 2014 ©

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2015 S-2**	Project Location: Hoghan Dr, Hoghan Cir, Keim Dr, 44th St, Rose Ln

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
18	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 63,000
3	1.5" service	3,560	Contractor material and labor to replace 1.5" residential services	$ 10,680
2	2" service	3,620	Contractor material and labor to replace 2" residential services	$ 7,240
23	hour	28	Company labor for field oversight and construction management	$ 644
Subtotal				$ 81,564
General Overhead Rate on Labor and Capital (10%)				$ 8,156
Total Estimated Cost				**$ 89,720**

2015

Project No: S-3 •
PWSID: 0407056

Paradise Valley District

Project Area:

Desert Crest Dr

Project Description:

Replace the following services:
4 residential services on Lincoln Dr
9 residential services on 40th St
8 residential services on 40th Pl
4 residential services on 41st St
8 residential services on 43rd Pl
18 residential services on Desert Crest Dr
4 residential services on Hillside Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

100 50 0 100 200 300 400
Feet

EPCOR WATER
7355 W. Pinnacle Peak Rd
Suite 300
Phoenix, AZ 85027

Created: 2/12/2014

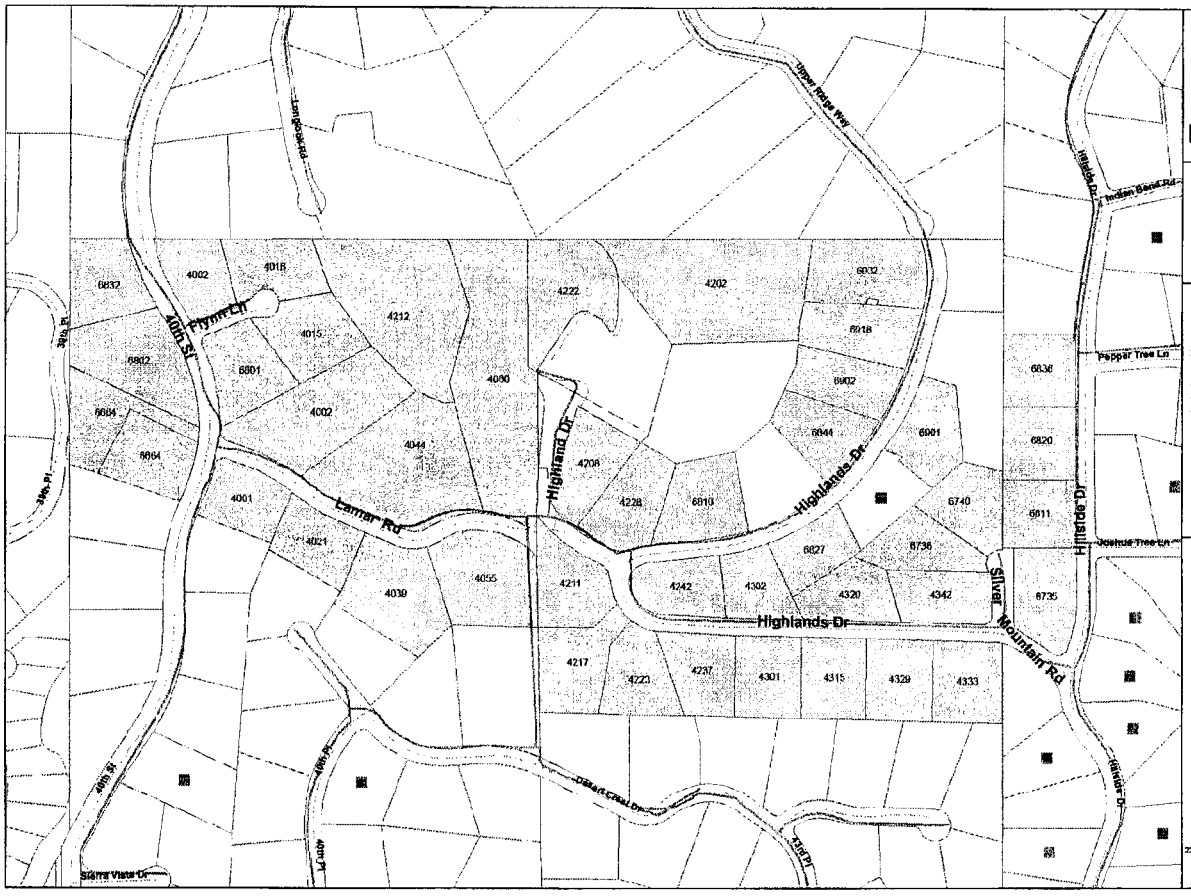
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2015 S-3**	Project Location: Lincoln Dr, 40th St, 40th Pl, 41st St, 43rd Pl, Desert Crest Dr, Hillside Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
52	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 182,000
3	1.5" service	3,560	Contractor material and labor to replace 1.5" residential services	$ 10,680
55	hour	28	Company labor for field oversight and construction management	$ 1,540
Subtotal				$ 194,220
General Overhead Rate on Labor and Capital (10%)				$ 19,422
Total Estimated Cost				**$ 213,642**



2015

Project No: S-4 •
PWSID: 0407056

Paradise Valley District

Project Area:

Highlands Dr

Project Description:

Replace the following services:
5 residential services on 40th St
3 residential services on Flynn Ln
11 residential services on Lamar Rd
20 residential services on Highlands Dr
3 residential services on Silver Mountain Dr
3 residential services on Hillside Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

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

EPCOR WATER

Created: 2/4/2014

EPCOR Water 2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

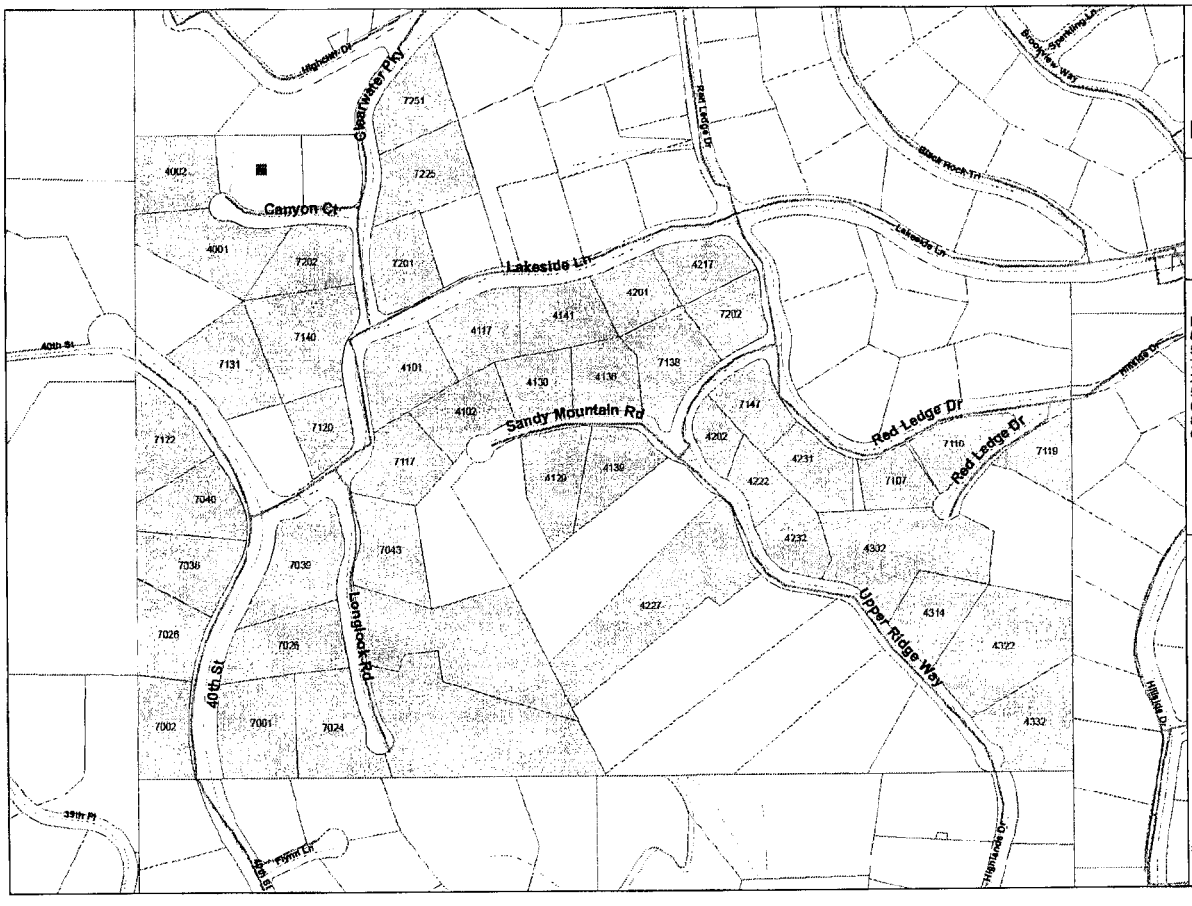
Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2015 S-4**	Highlands Dr, 40th St, Flynn Ln, Lamar Rd, Silver Mountain Dr, Hillside Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
37	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 129,500
5	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 17,800
3	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 10,860
45	hour	28	Company labor for field oversight and construction management	$ 1,260
Subtotal				$ 159,420
General Overhead Rate on Labor and Capital (10%)				$ 15,942
Total Estimated Cost				**$ 175,362**



2015

Project No: S-5 •
PWSID: 0407056

Paradise Valley District

Project Area:

Upper Ridge Way

Project Description:

Replace the following services:
8 residential services on 40th St
5 residential services on Longlook Rd
7 residential services on Clearwater Pkwy
2 residential services on Canyon Ct
5 residential services on Lakeside Ln
6 residential services on Red Ledge Dr
8 residential services on Upper Ridge Way
6 residential services on Sandy Mountain Rd

Legend
- Parcel with service to be replaced
- Service previously replaced
- Main

N

100 50 0 100 200 300 400
Foot

2555 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

EPCOR WATER

Created: 2/6/2014

EPCOR Water 2014 •

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2015 S-5**	Project Location: Upper Ridge Wy, 40th St, Longlook Rd, Clearwater Pkwy, Canyon Ct, Lakeside Ln, Red Ledge Dr, Upper Ridge Wy, Sandy Mtn Rd

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
39	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 136,500
5	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 17,800
3	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 10,860
47	hour	28	Company labor for field oversight and construction management	$ 1,316
Subtotal				$ 166,476
General Overhead Rate on Labor and Capital (10%)				$ 16,648
Total Estimated Cost				**$ 183,124**

Paradise Valley – PWS ID No. 0407056

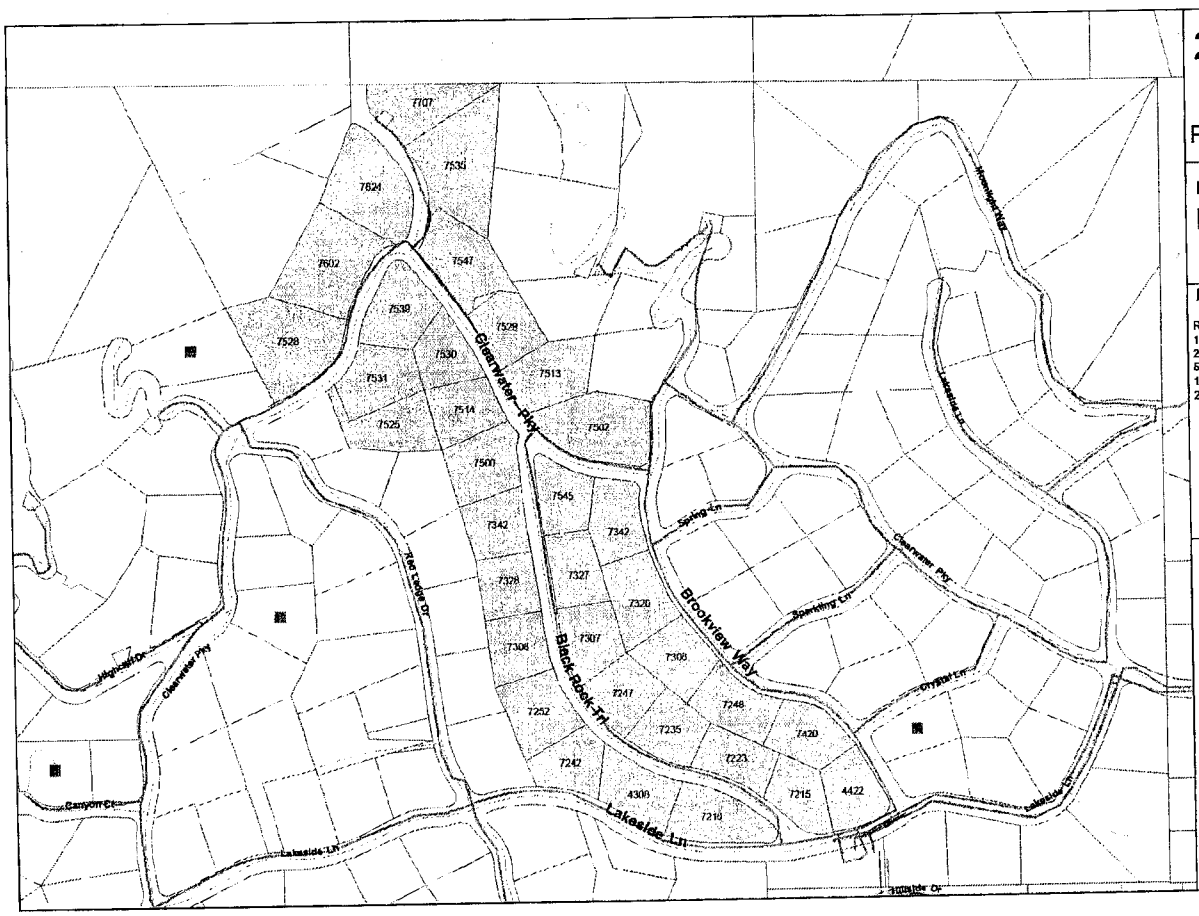
SIB PLANT TABLE I, 1-2

2016 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-6	333	service lines	35	29-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Black Rock Trl	12/2016	n/a	$136,356	Replace 29-1", 4-1.5", and 2-2" (35 total) residential services along Black Rock Trl and Clearwater Pkwy north of Lakeside Ln. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-6 in Exhibit CC-1-C for more detail.
S-7	333	service lines	31	25-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Red Ledge Dr	12/2016	n/a	$120,833	Replace 25-1", 4-1.5", and 2-2" (31 total) residential services along Red Ledge Dr, Clearwater Pkwy, and Highcliff Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 56 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to *new growth*. See Section 1 narrative and Map No. S-7 in Exhibit CC-1-C for more detail.

S-8	333	service lines	36	30-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Praying Monk Rd	12/2016	n/a	$140,237	Replace 30-1", 4-1.5", and 2-2" (36 total) residential and commercial services along Praying monk Rd, Joshua Tree Ln, and Lincoln Dr between Tatum and Desert Fairways. These services are a priority for replacement because they are galvanized steel pipe and will be about 62 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-8 in Exhibit CC-1-C for more detail.
S-9	333	service lines	43	42-1" 1-2"	Copper	1"-$3,881 2"-$4,013	Camelback Inn	12/2016	n/a	$166,940	Replace 42-1" and 1-2" (43 total) residential and commercial services in the Camelback Inn north of Lincoln. These services are a priority for replacement because they are galvanized steel pipe and will be about 50 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-9 in Exhibit CC-1-C for more detail.
S-10	333	service lines	40	38-1" 2-2"	Copper	1"-$3,881 2"-$4,013	Lost Dutchman Dr	12/2016	n/a	$155,364	Replace 38-1" and 2-2" (40 total) residential and commercial services along Lost Dutchman Dr, Smoke Tree Ln, Cactus Wren Rd, and 59th St. These services are a priority for replacement because they are galvanized steel pipe and will be about 52 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-10 in Exhibit CC-1-C for more detail.
S-11	333	service lines	27	24-1" 3-2"	Copper	1"-$3,881 2"-$4,013	Berridge Ln	12/2016	n/a	$104,980	Replace 24-1" and 3-2" (27 total) residential and commercial services along Berridge ln and Sundown Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 58 years old in 2016. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-11 in Exhibit CC-1-C for more detail.
Total			**212**							**$824,710**	



2016

Project No: S-6 •
PWSID: 0407056

Paradise Valley District

Project Area:

Black Rock Trl

Project Description:

Replace the following services:
14 residential services on Black Rock Trl
2 residential services on Lakeside Ln
5 residential services on Brookview Way
12 residential services on Clearwater Pkwy
2 residential services on Mountain View Pass

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

120 60 0 120 240 360 480 Feet

2555 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

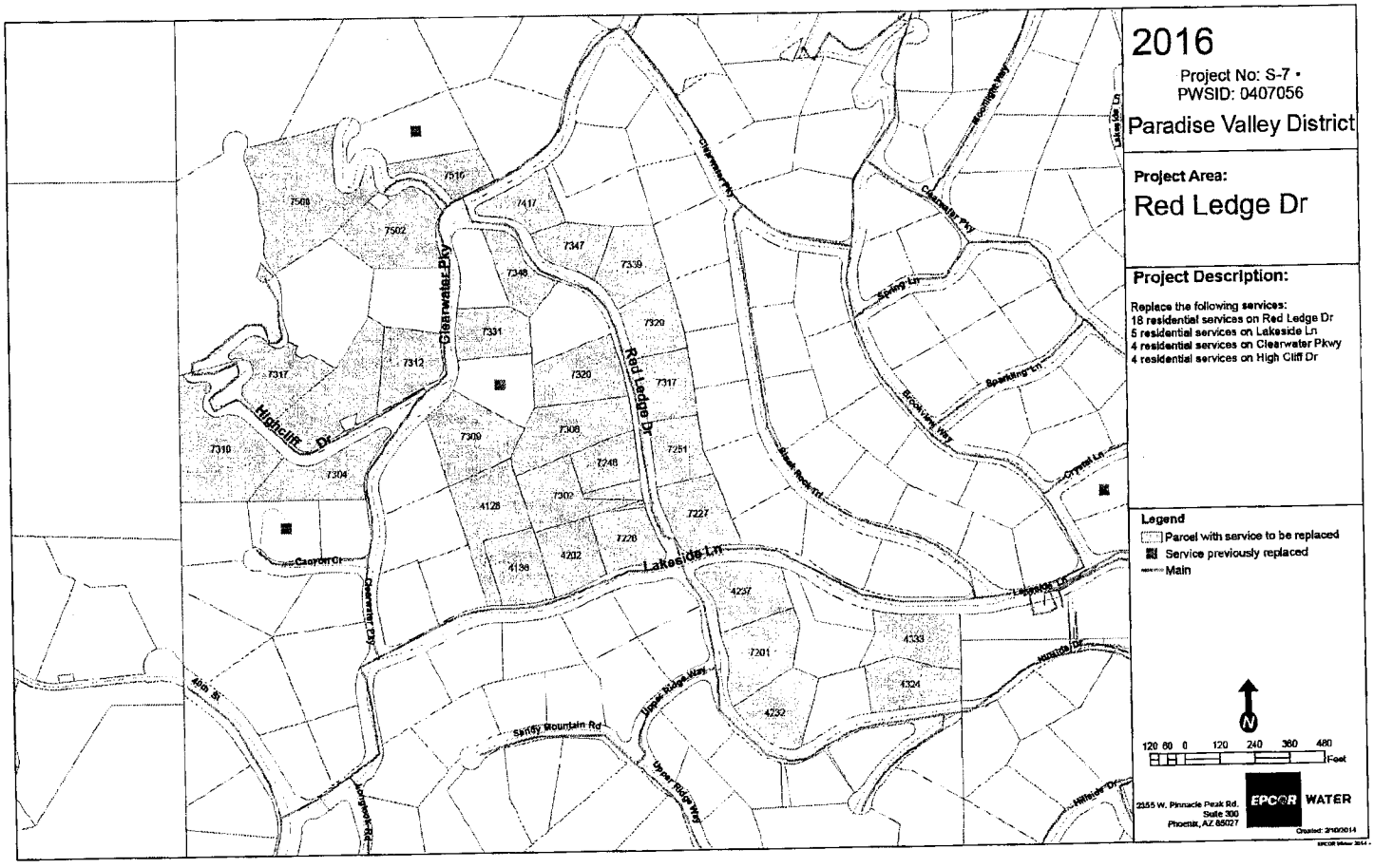
EPCOR WATER

Created: 2/11/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2016 S-6**	Project Location: Black Rock Trl, Lakeside Ln, Brookview Way, Clearwater Pkwy, Mountain View Pass	
Project Description: Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
29	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 101,500
4	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 14,240
2	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 7,240
35	hour	28	Company labor for field oversight and construction management	$ 980
Subtotal				$ 123,960
General Overhead Rate on Labor and Capital (10%)				$ 12,396
Total Estimated Cost				$ **136,356**


2016
Project No: S-7 •
PWSID: 0407056
Paradise Valley District
Project Area:
Red Ledge Dr
Project Description:
Replace the following services:
18 residential services on Red Ledge Dr
5 residential services on Lakeside Ln
4 residential services on Clearwater Pkwy
4 residential services on High Cliff Dr
Legend
Parcel with service to be replaced
Service previously replaced
Main
120 60 0 120 240 360 480
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Clearwater Pky
Red Ledge Dr
Lakeside Ln
Highcliff Dr
Sandy Mountain Rd
Upper Ridge Way
Spring Ln
Sparkling Ln
Brookview Way
Crystal Ln
Canyon Cr
Hillside Dr
Lakeside Dr
7508
7502
7516
7417
7347
7339
7348
7331
7320
7312
7317
7310
7304
7309
7308
7248
7251
7302
4128
7227
7226
4136
4202
4237
7201
4333
4324
4232

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2016 S-7**	Red Ledge Dr, Lakeside Ln, Clearwater Pkwy, High Cliff Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
25	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 87,500
4	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 14,240
2	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 7,240
31	hour	28	Company labor for field oversight and construction management	$ 868
Subtotal				$ 109,848
General Overhead Rate on Labor and Capital (10%)				$ 10,985
Total Estimated Cost				**$ 120,833**

Indian Bend Rd
Tatum Blvd
Joshua Tree Ln
Praying Monk Rd
Lincoln Dr
Desert Fairway Dr
Mummy Mountain Rd
Sierra Vista Dr
Ocotillo Rd
4701
4717
4733
6610
6615
6604
6605
6632
6701
6708
6648
6647
6642
6635
6630
6623
6620
6606
6602
6580
6548
6575
6530
6533
6508
6501
6401
4828
4910
4930
5010
5030
5110
5126
5206
2016
Project No: S-8 •
PWSID: 0407056
Paradise Valley District
Project Area:
Praying Monk Rd
Project Description:
Replace the following services:
16 residential services on Praying Monk Rd
7 residential services on Joshua Tree Ln
3 residential services on Indian Bend Rd
9 residential services on Lincoln Dr
1 commercial service on Tatum Blvd
Legend
Parcel with service to be replaced
Service previously replaced
Main
N
140 70 0 140 280 420 560
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 2/10/2014

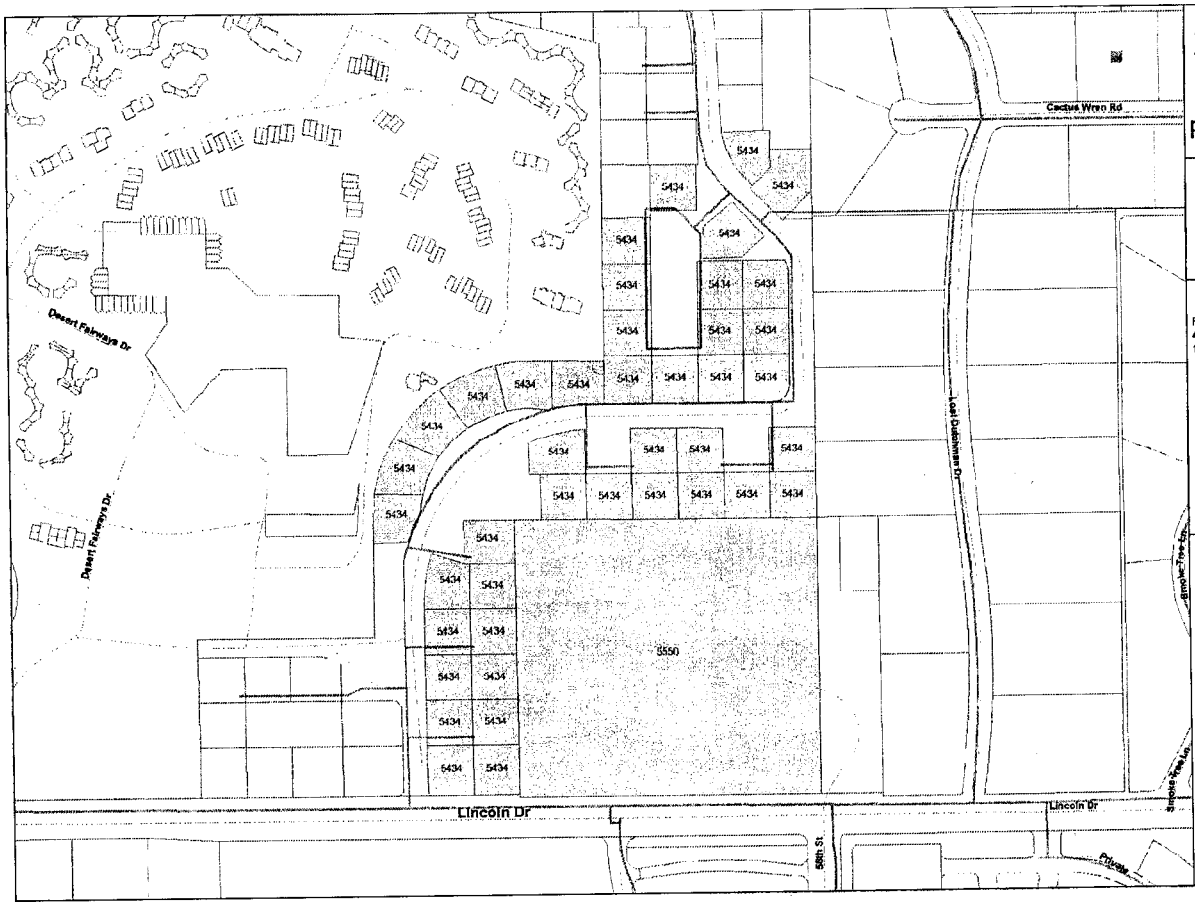
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2016 S-8**	Project Location: Praying Monk Rd, Joshua Tree Ln, Indian Bend Rd, Lincoln Dr, Tatum Blvd

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
30	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 105,000
4	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 14,240
2	2" service	3620	Contractor materials and labor to replace 2" residential and commercial services	$ 7,240
36	hour	28	Company labor for field oversight and construction management	$ 1,008
Subtotal				$ 127,488
General Overhead Rate on Labor and Capital (10%)				$ 12,749
Total Estimated Cost				**$ 140,237**



2016

Project No: S-9 •
PWSID: 0407056

Paradise Valley District

Project Area:

Camelback Inn Condos

Project Description:

Replace the following services:
42 residential services at the Camelback Inn
1 commercial service on Lincoln Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created, 2/5/2014

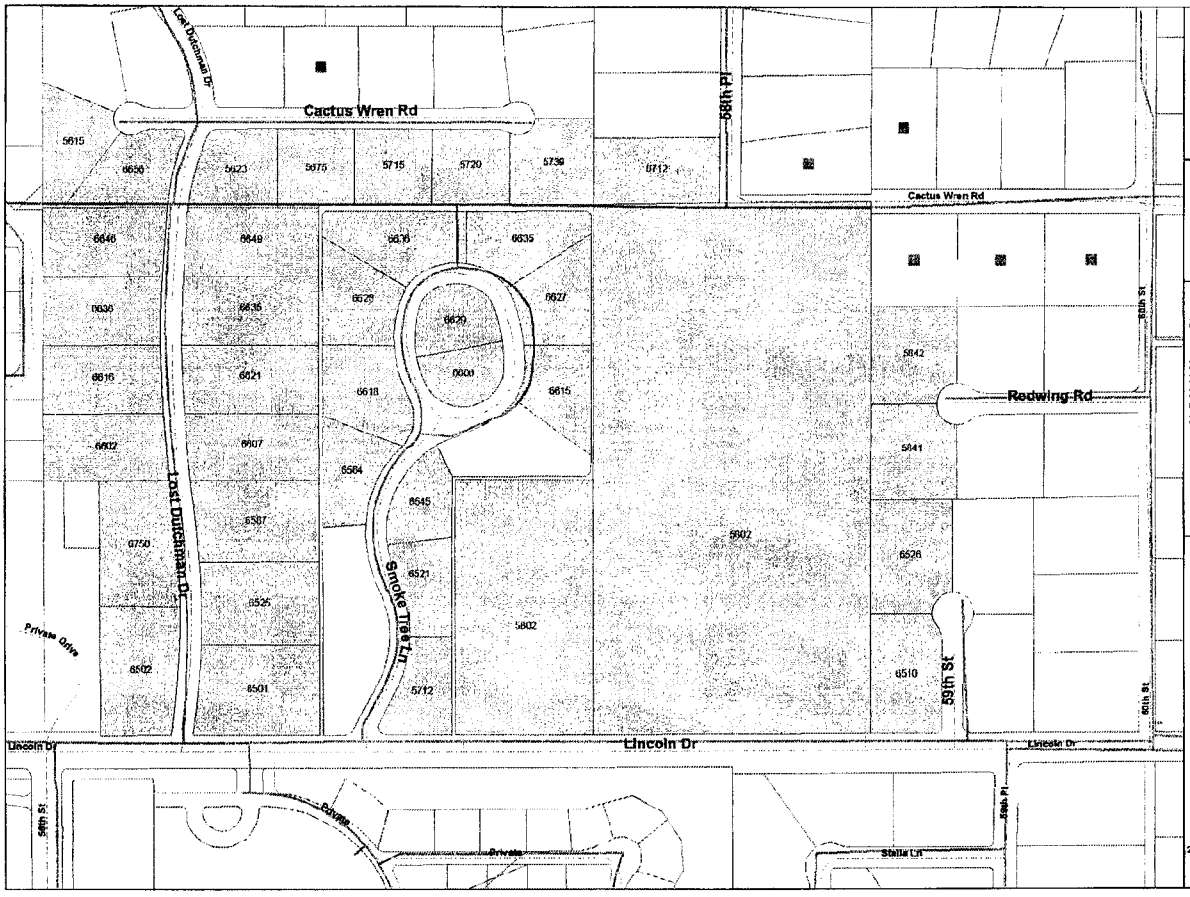
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2016 S-9**	Project Location: Camelback Inn Condominiums

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
42	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 147,000
1	2" service	3,560	Contractor materials and labor to replace 2" commercial service	$ 3,560
43	hour	28	Company labor for field oversight and construction management	$ 1,204
Subtotal				$ 151,764
General Overhead Rate on Labor and Capital (10%)				$ 15,176
Total Estimated Cost				$ **166,940**



2016

Project No: S-10 •
PWSID: 0407056

Paradise Valley District

Project Area:

Lost Dutchman Dr

Project Description:

Replace the following services:
14 residential services on Lost Dutchman Dr
11 residential services on Smoke Tree Ln
2 residential services on 59th St
2 residential services on 58th Pl
2 residential services on Redwing Rd
6 residential services on Cactus Wren Rd
2 commercial service on Lincoln Dr
1 residential service on Lincoln Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

80 40 0 80 160 240 320
Feet

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

EPCOR WATER

Created: 2/11/2014

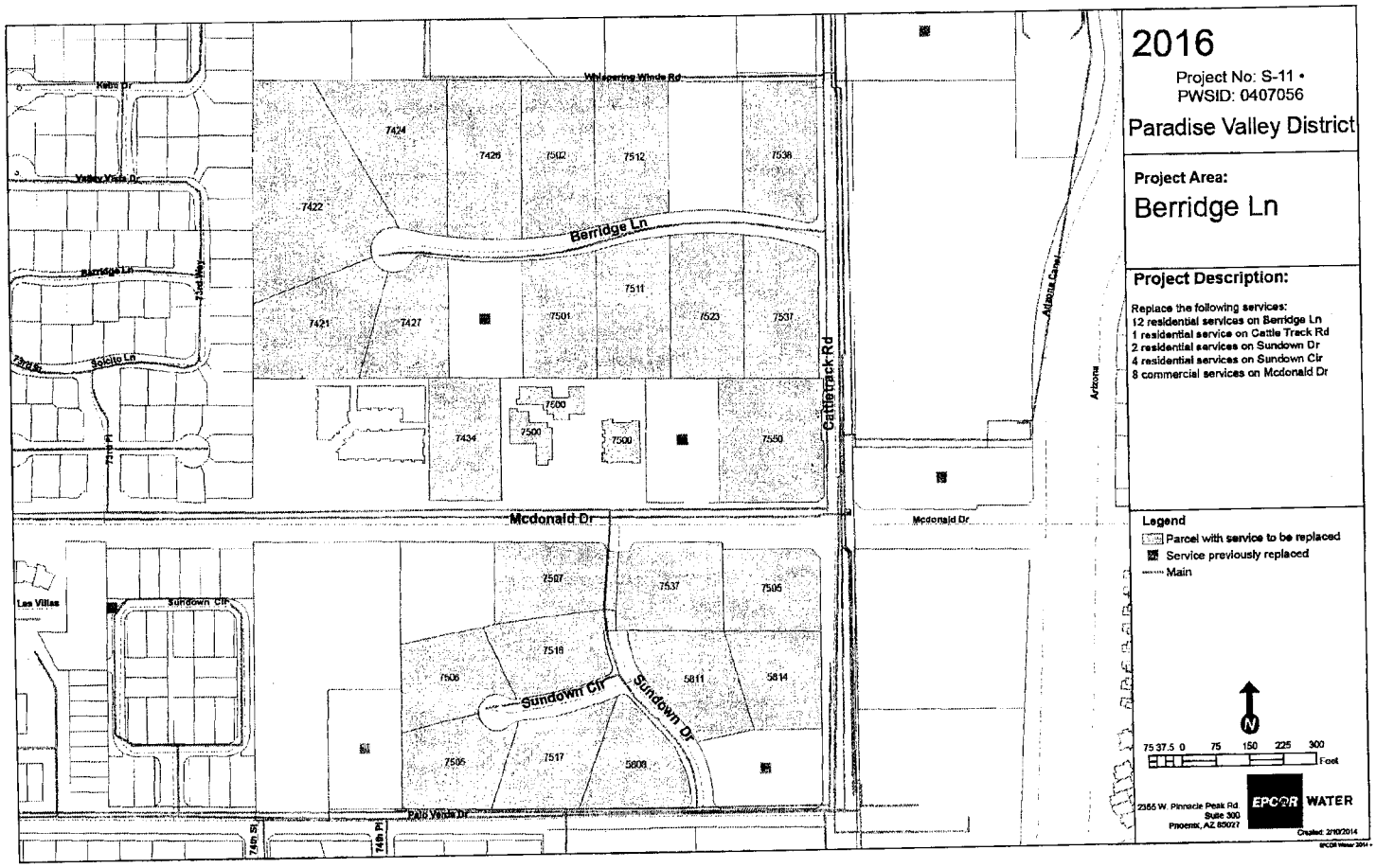
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2016 S-10**	Project Location: Lost Dutchman Dr, Smoke Tree Ln, 59th St, 58th Pl, Redwing Rd, Cactus Wren Rd, Lincoln Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
38	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 133,000
2	2" service	3,560	Contractor materials and labor to replace 2" commercial services	$ 7,120
40	hour	28	Company labor for field oversight and construction management	$ 1,120
Subtotal				$ 141,240
General Overhead Rate on Labor and Capital (10%)				$ 14,124
Total Estimated Cost				**$ 155,364**


2016
Project No: S-11 •
PWSID: 0407056
Paradise Valley District
Project Area:
Berridge Ln
Project Description:
Replace the following services:
12 residential services on Berridge Ln
1 residential service on Cattle Track Rd
2 residential services on Sundown Dr
4 residential services on Sundown Clr
8 commercial services on Mcdonald Dr
Legend
Parcel with service to be replaced
Service previously replaced
Main
Whispering Winds Rd
Berridge Ln
Mcdonald Dr
Sundown Clr
Sundown Dr
Cattletrack Rd
Arizona Canal
Arizona
Palo Verde Dr
Las Villas
7424
7426
7502
7512
7538
7422
7421
7427
7501
7511
7523
7537
7434
7500
7550
7507
7505
7518
7506
5811
5814
7517
5808
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 2/10/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2016 S-11**	Project Location: Berridge Ln, Cattle Track Rd, Sundown Dr, Sundown Cir, McDonald Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
24	1" service	3,500	Contractor material and labor to replace 1" residential and commerical services	$ 84,000
3	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential and commercial services	$ 10,680
27	hour	28	Company labor for field oversight and construction management	$ 756
Subtotal				$ 95,436
General Overhead Rate on Labor and Capital (10%)				$ 9,544
Total Estimated Cost				**$ 104,980**

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 1-3

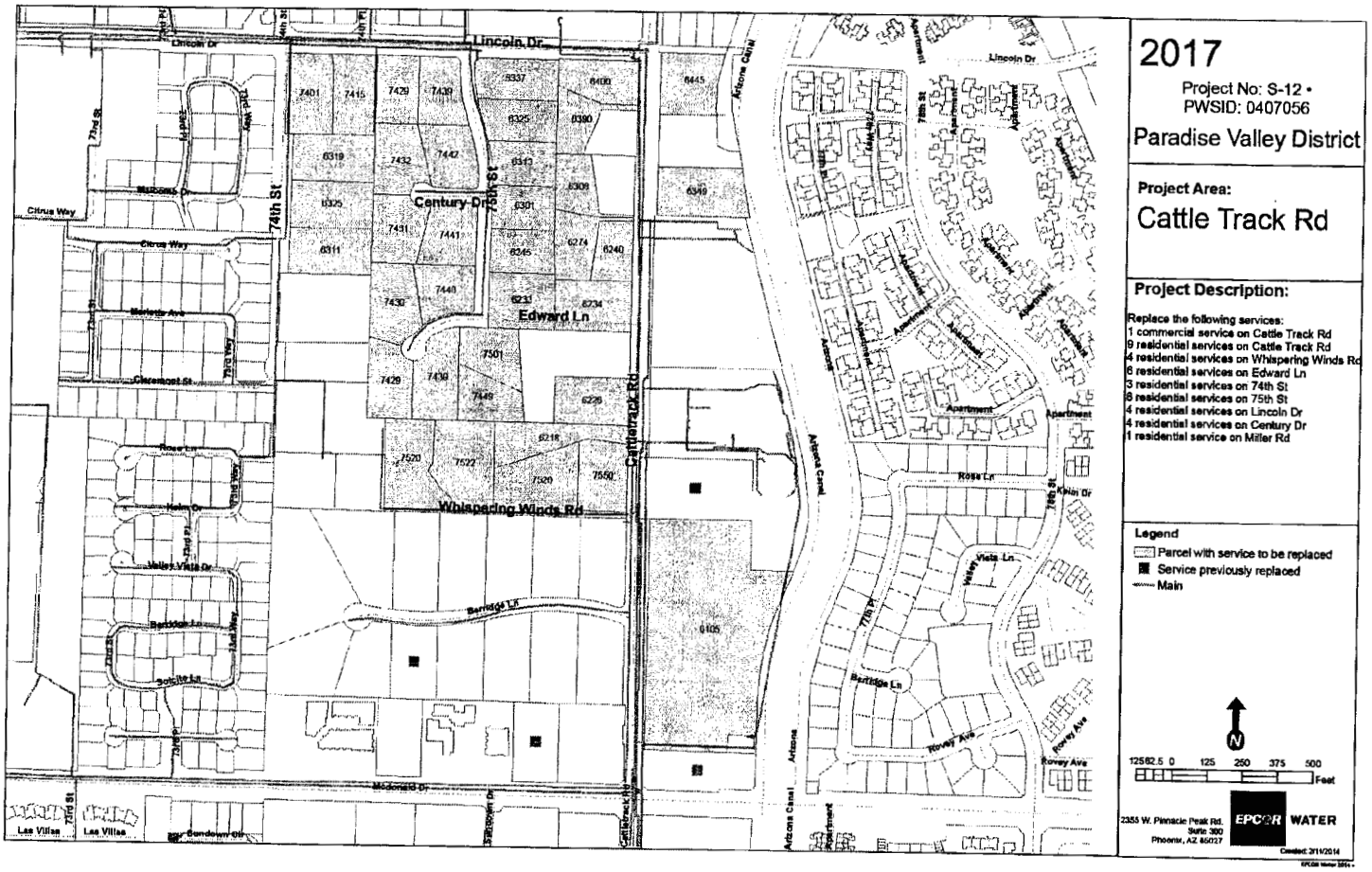
2017 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition *due to no fault of the utility* - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply *Mains*** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-12	333	service lines	38	34-1" 4-1.5"	Copper	1"-$3,881 1.5"-$3,947	Cattletrack Rd	12/2017	n/a	$147,734	Replace 34-1" and 4-1.5" (38 total) residential and commercial services between Cattletrack Rd, 74th St, Lincoln Dr, and Whispering Winds Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 40 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-12 in Exhibit CC-1-C for more detail.
S-13	333	service lines	33	29-1" 4-2"	Copper	1"-$3,881 2"-$4,013	73rd Way	12/2017	n/a	$128,330	Replace 29-1" and 4-2" (33 total) residential and commercial services between 73rd Way, Scottsdale Rd, Lincoln Dr, and Citrus Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 45 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-13 in Exhibit CC-1-C for more detail.

S-14	333	service lines	33	33-1"	Copper	1"-$3,881	Balfour Rd	12/2017	n/a	$128,066	Replace 40-1" residential services south of Vista Dr between 68th St and Scottsdale Rd. These services are a priority for replacement because they are galvanized steel pipe will be about 59 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-14 in Exhibit CC-1-C for more detail.
S-15	333	service lines	21	16-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Paradise Canyon Rd	12/2017	n/a	$81,959	Replace 16-1", 3-1.5", and 2-2" (21 total) residential services along Las Brisas Ln and Paradise Canyon Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 46 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-15 in Exhibit CC-1-C for more detail.
S-16	333	service lines	22	17-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	54th St	12/2017	n/a	$85,840	Replace 17-1", 3-1.5", and 2-2" (22 total) residential services along 54th St, Desert Park Ln, Roadrunner Rd, and Desert Vista Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 43 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-16 in Exhibit CC-1-C for more detail.
S-17	333	service lines	32	26-1" 4-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Shadow Mountain Rd	12/2017	n/a	$124,714	Replace 26-1", 4-1.5", and 2-2" (32 total) residential services between Shadow Mountain Rd, Tatum Blvd, Roadrunner Rd, and Prickly Pear Ln. These services are a priority for replacement because they are galvanized steel pipe and will be about 61 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-17 in Exhibit CC-1-C for more detail.

S-18	333	service lines	60	51-1" 6-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Crestview Dr	12/2017	n/a	$233,640	Replace 51-1", 6-1.5", and 3-2" (60 total) residential services between Desert Jewel Dr, Roadrunner Rd, Tatum Blvd, and Shadow Mountain Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 47 years old in 2017. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-18 in Exhibit CC-1-C for more detail.
Total			**239**							**$930,283**	



2017

Project No: S-12 •
PWSID: 0407056

Paradise Valley District

Project Area:

Cattle Track Rd

Project Description:

Replace the following services:
1 commercial service on Cattle Track Rd
9 residential services on Cattle Track Rd
4 residential services on Whispering Winds Rd
6 residential services on Edward Ln
3 residential services on 74th St
8 residential services on 75th St
4 residential services on Lincoln Dr
4 residential services on Century Dr
1 residential service on Miller Rd

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

12582.5 0 125 250 375 500 Feet

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

EPCOR WATER

Created: 2/11/2014

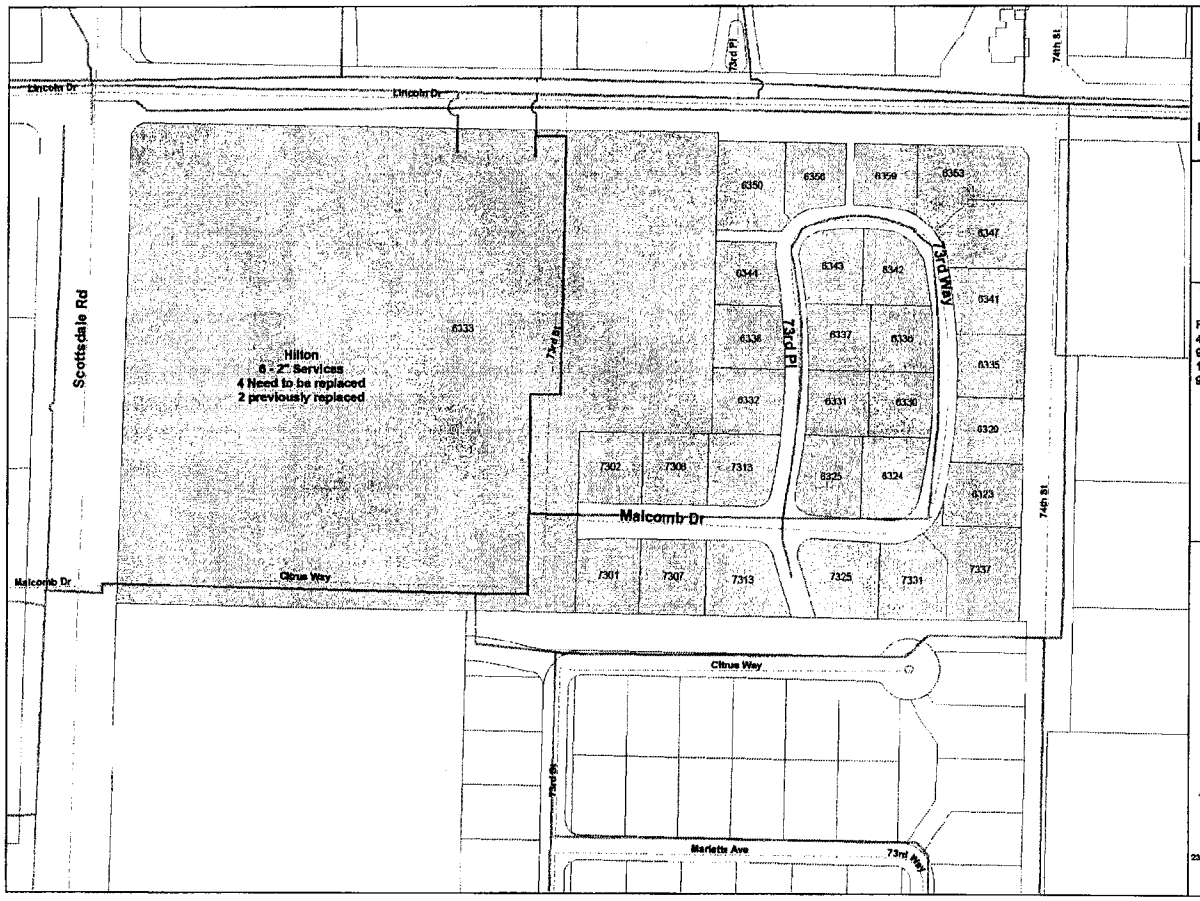
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-12**	Project Location: Cattle Track Rd, Whipsering Winds Rd, Edward Ln, 74th St, 75th St, Lincoln Dr, Century Dr, Miller Rd

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
34	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 119,000
4	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential and commercial services	$ 14,240
38	hour	28	Company labor for field oversight and construction management	$ 1,064
Subtotal				$ 134,304
General Overhead Rate on Labor and Capital (10%)				$ 13,430
Total Estimated Cost				**$ 147,734**



2017

Project No: S-13 •
PWSID: 0407056

Paradise Valley District

Project Area:

73rd Way

Project Description:

Replace the following services:
4 commercial services on Scottsdale Rd
9 residential services on Malcomb Dr
11 residential services on 73rd Way
9 residential services on 73rd Pl

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

40 20 0 40 80 120 160
Feet

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

EPCOR WATER

Created: 2/19/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-13**	Project Location: 73rd Way, Scottsdale Rd, Malcomb Dr, 73rd Pl

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
29	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 101,500
4	2" service	3,560	Contractor materials and labor to replace 2" commercial services	$ 14,240
33	hour	28	Company labor for field oversight and construction management	$ 924
Subtotal				$ 116,664
General Overhead Rate on Labor and Capital (10%)				$ 11,666
Total Estimated Cost				**$ 128,330**

2017

Project No: S-14 •
PWSID: 0407056

Paradise Valley District

Project Area:

Balfour Rd

Project Description:

Replace the following services:
12 residential services on Balfour Rd
1 residential service on 69th Pl
6 residential services on Vista Dr
1 residential service on 70th St
3 residential services on Chaparral Rd
2 residential services on 70st Pl
3 residential services on 71st St
2 residential services on 70th Way
3 residential services on 71st Way

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 2/11/2014

©EPCOR Water 2014

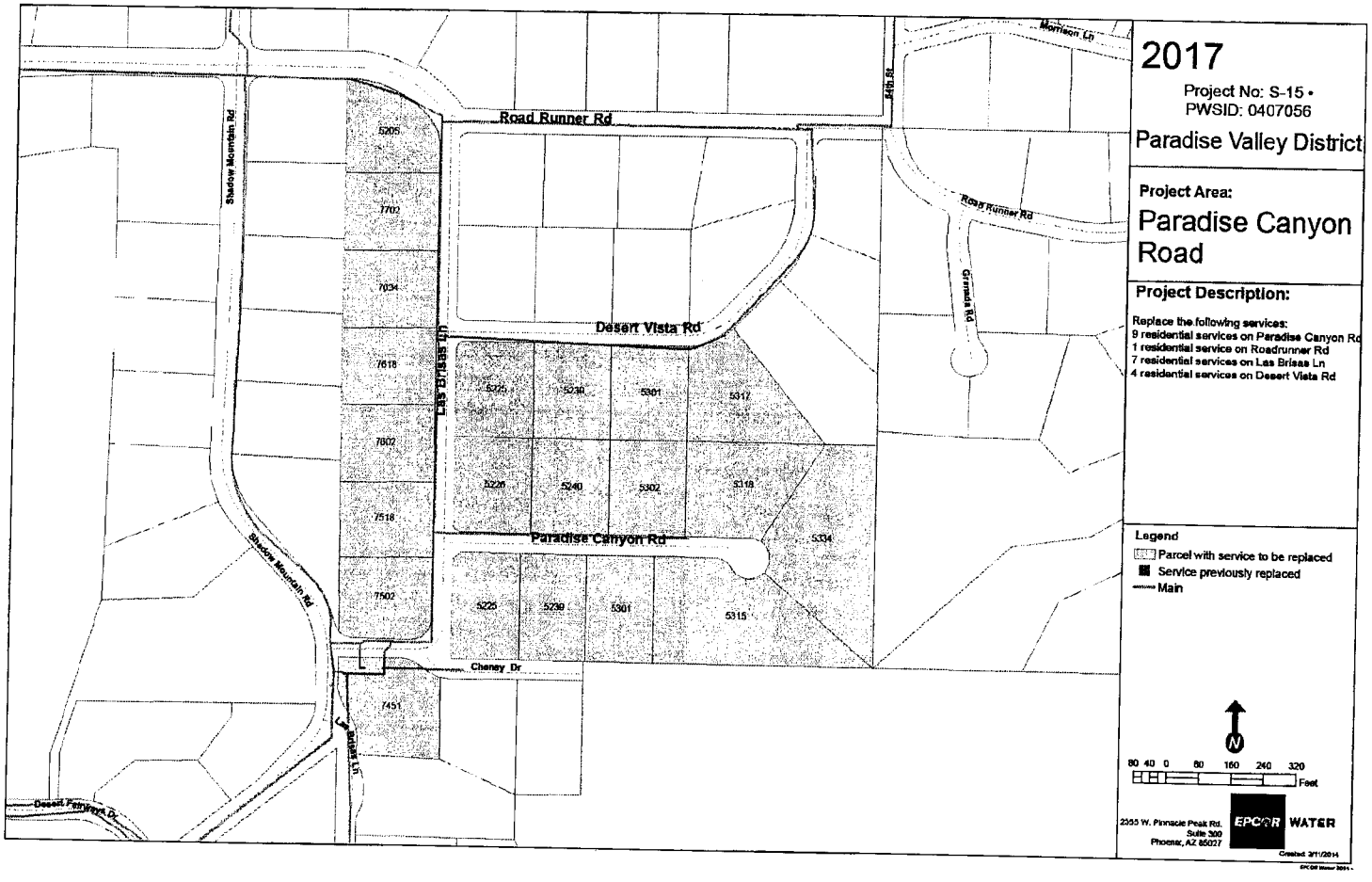
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-14**	Project Location: Balfour Rd, 69th Pl, Vista Dr, 70th St, Chaparral Rd, 70th St, 71st St, 70th Way, 71st Way

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
33	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 115,500
33	hour	28	Company labor for field oversight and construction management	$ 924
Subtotal				$ 116,424
General Overhead Rate on Labor and Capital (10%)				$ 11,642
Total Estimated Cost				**$ 128,066**



2017

Project No: S-15 •
PWSID: 0407056

Paradise Valley District

Project Area:

Paradise Canyon Road

Project Description:

Replace the following services:
9 residential services on Paradise Canyon Rd
1 residential service on Roadrunner Rd
7 residential services on Las Brisas Ln
4 residential services on Desert Vista Rd

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/11/2014

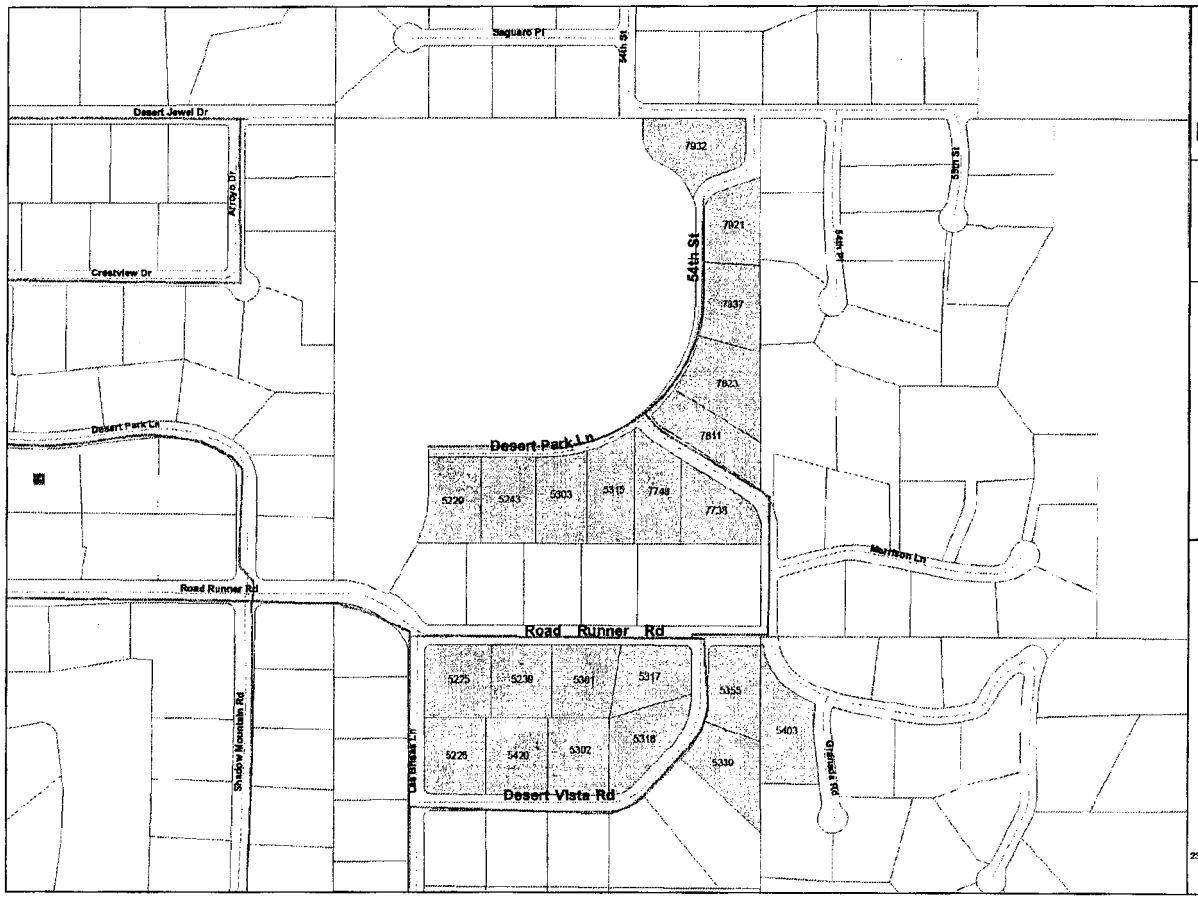
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-15**	Project Location: Paradise Canyon Rd, Roadrunner Rd, Las Brisas Ln, Desert Vista Rd

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
16	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 56,000
3	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 10,680
2	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 7,240
21	hour	28	Company labor for field oversight and construction management	$ 588
Subtotal				$ 74,508
General Overhead Rate on Labor and Capital (10%)				$ 7,451
Total Estimated Cost				**$ 81,959**



2017

Project No: S-16 •
PWSID: 0407056

Paradise Valley District

Project Area:

54th Street

Project Description:

Replace the following services:
7 residential services on 54th St
5 residential services on Roadrunner Rd
4 residential services on Desert Park Ln
6 residential services on Desert Vista Rd

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

110 55 0 110 220 330 440
Feet

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

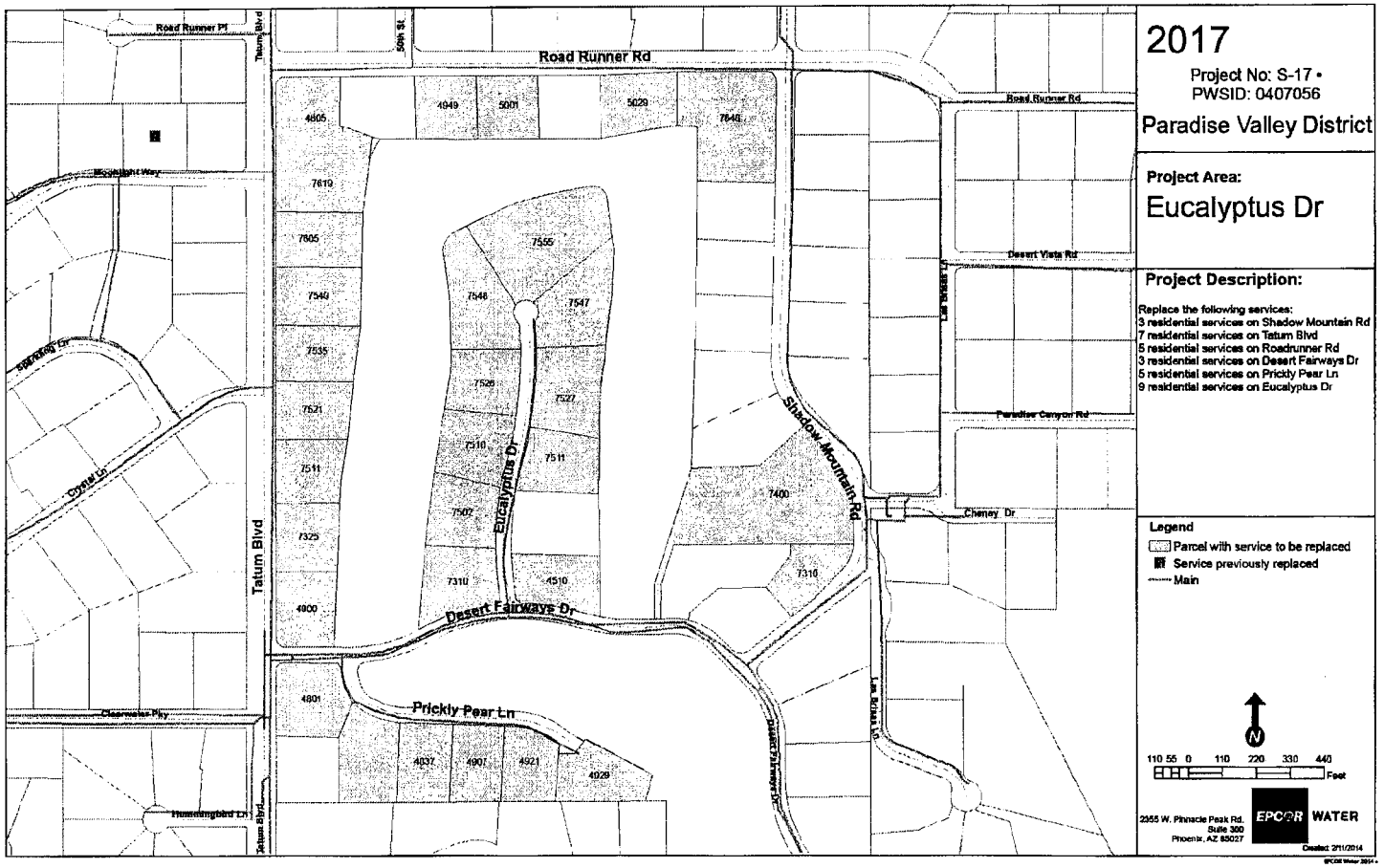
EPCOR WATER

Created: 2/11/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-16**	Project Location: 54th St, Roadrunner Rd, Desert Park Ln, Desert Vista Rd	
Project Description: Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
17	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 59,500
3	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 10,680
2	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 7,240
22	hour	28	Company labor for field oversight and construction management	$ 616
Subtotal				$ 78,036
General Overhead Rate on Labor and Capital (10%)				$ 7,804
Total Estimated Cost				**$ 85,840**



2017

Project No: S-17 •
PWSID: 0407056

Paradise Valley District

Project Area:

Eucalyptus Dr

Project Description:

Replace the following services:
3 residential services on Shadow Mountain Rd
7 residential services on Tatum Blvd
5 residential services on Roadrunner Rd
3 residential services on Desert Fairways Dr
5 residential services on Prickly Pear Ln
9 residential services on Eucalyptus Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

110 55 0 110 220 330 440
Feet

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

EPCOR WATER

Created: 2/11/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-17**	Project Location: Shadow Mountain Rd, Tatum Blvd, Roadrunner Rd, Desert Fairways Dr, Prickly Pear Ln, Eucalyptus Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
26	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 91,000
4	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 14,240
2	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 7,240
32	hour	28	Company labor for field oversight and construction management	$ 896
Subtotal				$ 113,376
General Overhead Rate on Labor and Capital (10%)				$ 11,338
Total Estimated Cost				**$ 124,714**

2017

Project No: S-18 •
PWSID: 0407056

Paradise Valley District

Project Area:

Crestview Drive

Project Description:

Replace the following services:
3 residential services on Shadow Mountain Rd
3 residential services on Tatum Blvd
6 residential services on Roadrunner Rd
10 residential services on Desert Park Ln
1 residential service on 50th St
1 residential service on 47th Pl
4 residential services on Ridgeview Dr
13 residential services on Crestview Dr
6 residential services on Desert Jewel Dr
3 residential services on Arroyo Dr
2 residential services on Foothill Dr
6 residential services on Roadrunner Pl

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

100 50 0 100 200 300 400 Feet

2355 W. Pinnacle Peak Rd.
Suite 360
Phoenix, AZ 85027

EPCOR WATER

Created: 7/11/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2017 S-18**	Project Location: Crestview Dr, Tatum Blvd, Roadrunner Rd & Pl, Desert Park Ln, 47th Pl, Crestview Dr, Desert Jewel Dr, Foothill Dr

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
51	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 178,500
6	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 21,360
3	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 10,860
60	hour	28	Company labor for field oversight and construction management	$ 1,680
Subtotal				$ 212,400
General Overhead Rate on Labor and Capital (10%)				$ 21,240
Total Estimated Cost				**$ 233,640**

Paradise Valley – PWS ID No. 0407056

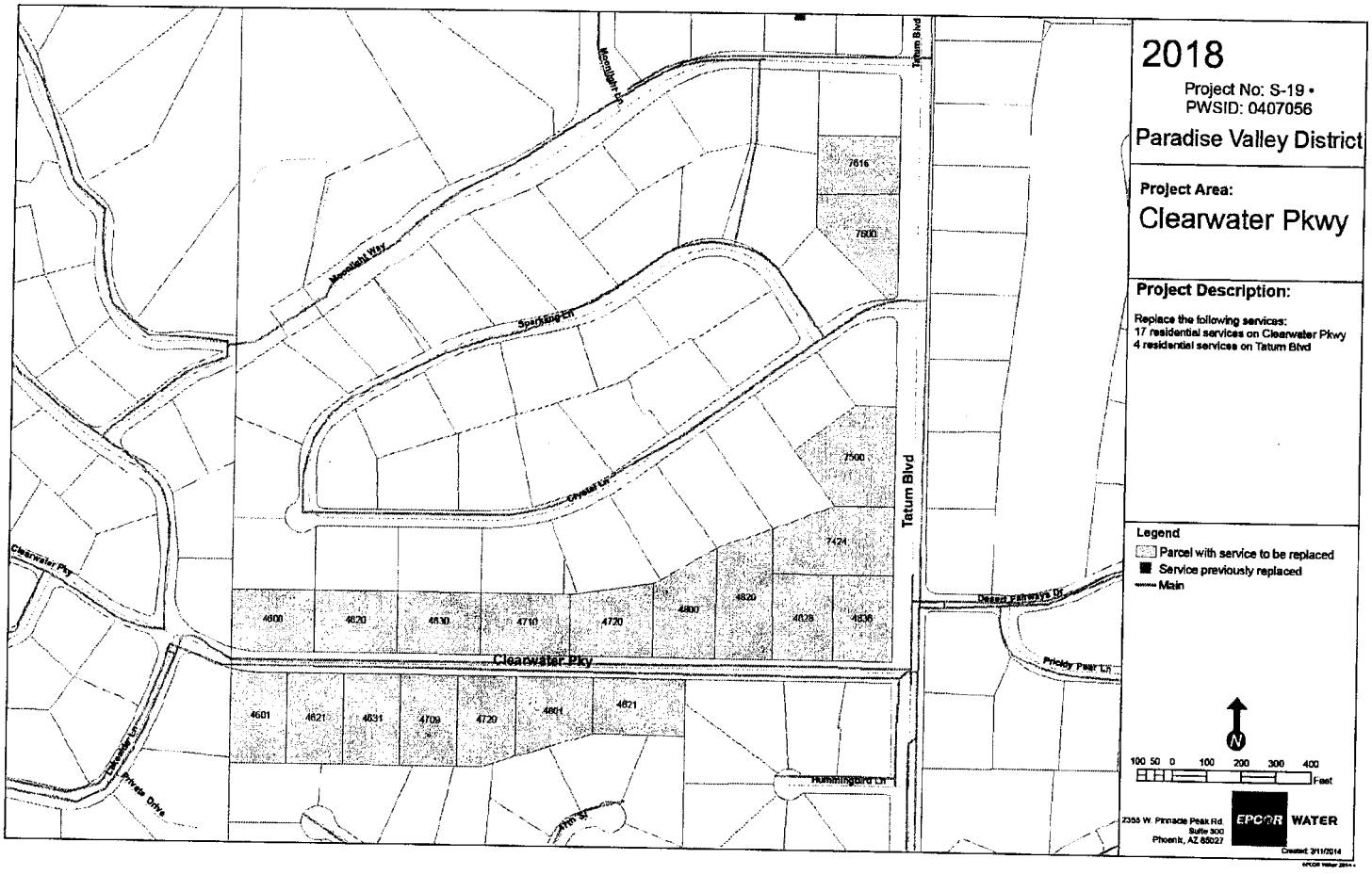
SIB PLANT TABLE I, 1-4

2018 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	309 **Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-19	333	service lines	21	16-1" 3-1.5" 2-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Clearwater Pkwy	12/2018	n/a	$81,959	Replace 16-1", 3-1.5", and 2-2" (21 total) residential services Clearwater Pkwy and Tatum Blvd. These services are a priority for replacement because they are galvanized steel pipe and will be about 63 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-19 in Exhibit CC-1-C for more detail.
S-20	333	service lines	65	54-1" 7-1.5" 4-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Lakeside Ln	12/2018	n/a	$253,242	Replace 54-1", 7-1.5", and 4-2" (65 total) residential services along Lakeside Ln, Moonlight Way, Clearwater Pkwy, and Brookview Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 62 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-20 in Exhibit CC-1-C for more detail.

S-21	333	service lines	43	35-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Crystal Ln	12/2018	n/a	$167,600	Replace 35-1", 5-1.5", and 3-2" (43 total) residential services along Crystal Ln, Sparkling Ln, and Moonlight Way. These services are a priority for replacement because they are galvanized steel pipe and will be about 55 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-21 in Exhibit CC-1-C for more detail.
S-22	333	service lines	45	37-1" 5-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Desert Fairways Dr	12/2018	n/a	$175,362	Replace 37-1", 5-1.5", and 3-2" (45 total) residential services along Desert Fairways Dr, Palo Verde Pl, Pepper Tree Ln, and Arroyo Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 65 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-22 in Exhibit CC-1-C for more detail.
S-23	333	service lines	58	49-1" 6-1.5" 3-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Joshua Tree Ln	12/2018	n/a	$225,878	Replace 49-1", 6-1.5", and 3-2" (58 total) residential services between Indian Bend Rd, Lincoln Dr, 60th St, and Lost Dutchman Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 60 years old in 2018. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-23 in Exhibit CC-1-C for more detail.
Total			232							$904,042	



2018

Project No: S-19 •
PWSID: 0407056

Paradise Valley District

Project Area:

Clearwater Pkwy

Project Description:

Replace the following services:
17 residential services on Clearwater Pkwy
4 residential services on Tatum Blvd

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

100 50 0 100 200 300 400 Feet

7355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

EPCOR WATER

Created: 3/11/2014

©EPCOR Water 2014

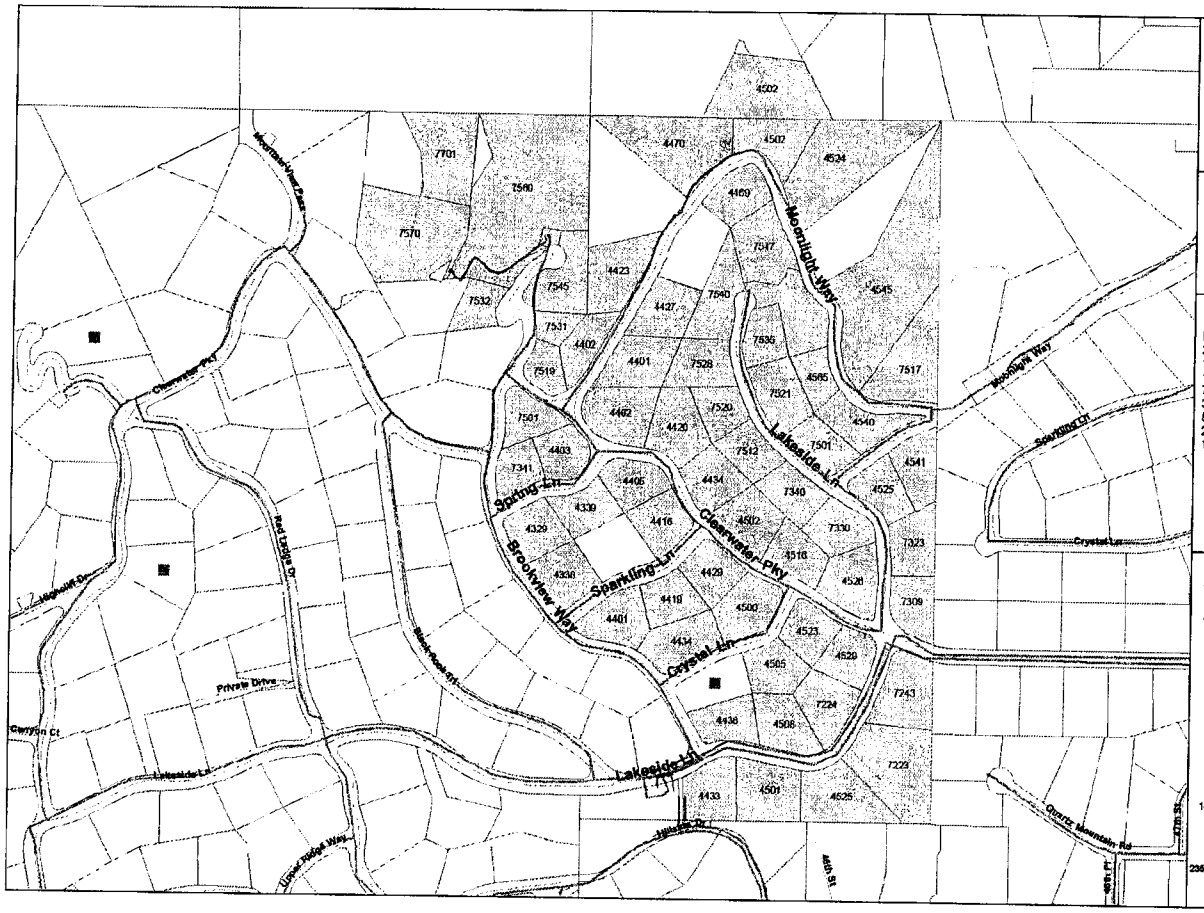
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 S-19**	Project Location: Clearwater Pkwy, Tatum Blvd	

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
16	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 56,000
3	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 10,680
2	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 7,240
21	hour	28	Company labor for field oversight and construction management	$ 588
Subtotal				$ 74,508
General Overhead Rate on Labor and Capital (10%)				$ 7,451
Total Estimated Cost				**$ 81,959**



2018

Project No: S-20 •
PWSID: 0407056

Paradise Valley District

Project Area:

Lakeside Ln

Project Description:

Replace the following services:
21 residential services on Lakeside Ln
15 residential services on Moonlight Way
11 residential services on Clearwater Pkwy
7 residential services on Silvercrest Way
3 residential services on Crystal Ln
5 residential services on Sparkling Ln
2 residential services on Spring Ln
1 residential services on Brookview Way

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

140 70 0 140 280 420 560 Feet

2365 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

EPCOR WATER

Created: 2/11/2014

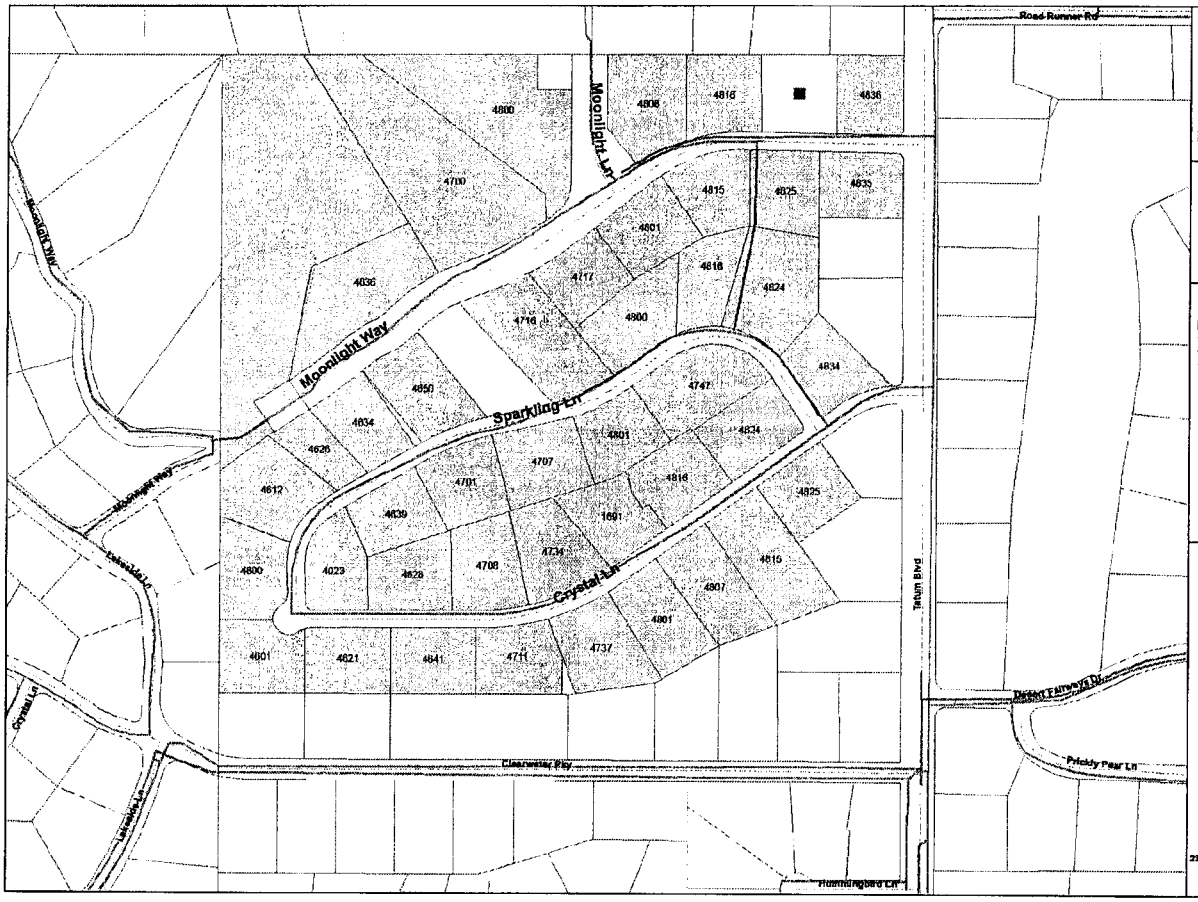
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 S-20**	Project Location: Lakedside Ln, Moonlight Way, Clearwater Pkwy, Silvercrest Way, Crystal Ln, Sparkling Ln, Spring Ln, Brookview Way

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
54	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 189,000
7	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 24,920
4	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 14,480
65	hour	28	Company labor for field oversight and construction management	$ 1,820
Subtotal				$ 230,220
General Overhead Rate on Labor and Capital (10%)				$ 23,022
Total Estimated Cost				**$ 253,242**



2018

Project No: S-21 •
PWSID: 0407056

Paradise Valley District

Project Area:

Crystal Lane

Project Description:

Replace the following services:
12 residential services on Moonlight Way
16 residential services on Crystal Ln
15 residential services on Sparkling Ln

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 2/11/2014

EPCOR Water 2014 •

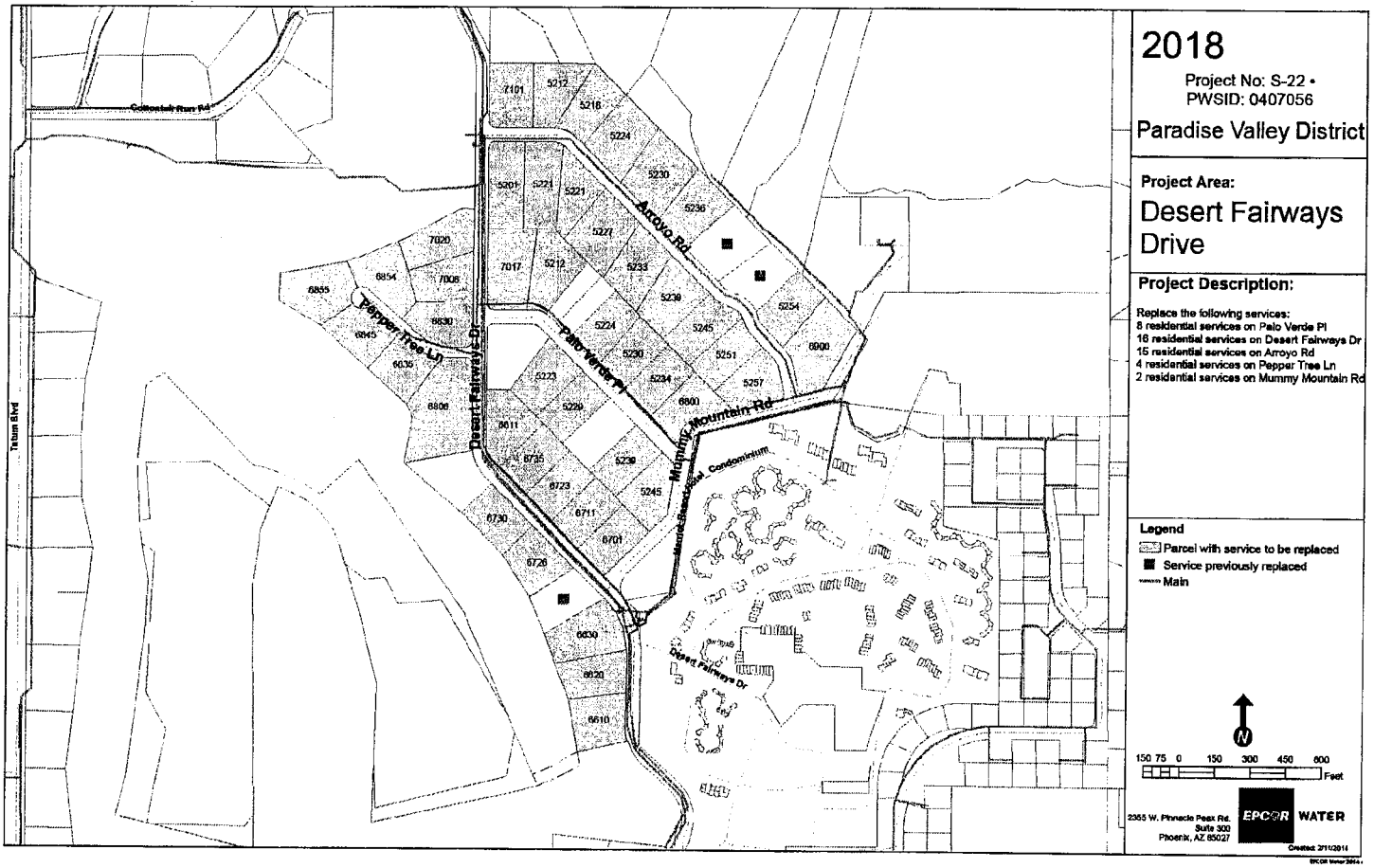
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 S-21**	Project Location: Crystal Ln, Moonlight Way, Sparkling Way	

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
35	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 122,500
5	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 17,800
3	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 10,860
43	hour	28	Company labor for field oversight and construction management	$ 1,204
Subtotal				$ 152,364
General Overhead Rate on Labor and Capital (10%)				$ 15,236
Total Estimated Cost				**$ 167,600**



2018

Project No: S-22 •
PWSID: 0407056

Paradise Valley District

Project Area:

Desert Fairways Drive

Project Description:

Replace the following services:
8 residential services on Palo Verde Pl
16 residential services on Desert Fairways Dr
15 residential services on Arroyo Rd
4 residential services on Pepper Tree Ln
2 residential services on Mummy Mountain Rd

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

150 75 0 150 300 450 600
Feet

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

EPCOR WATER

Created: 2/11/2014

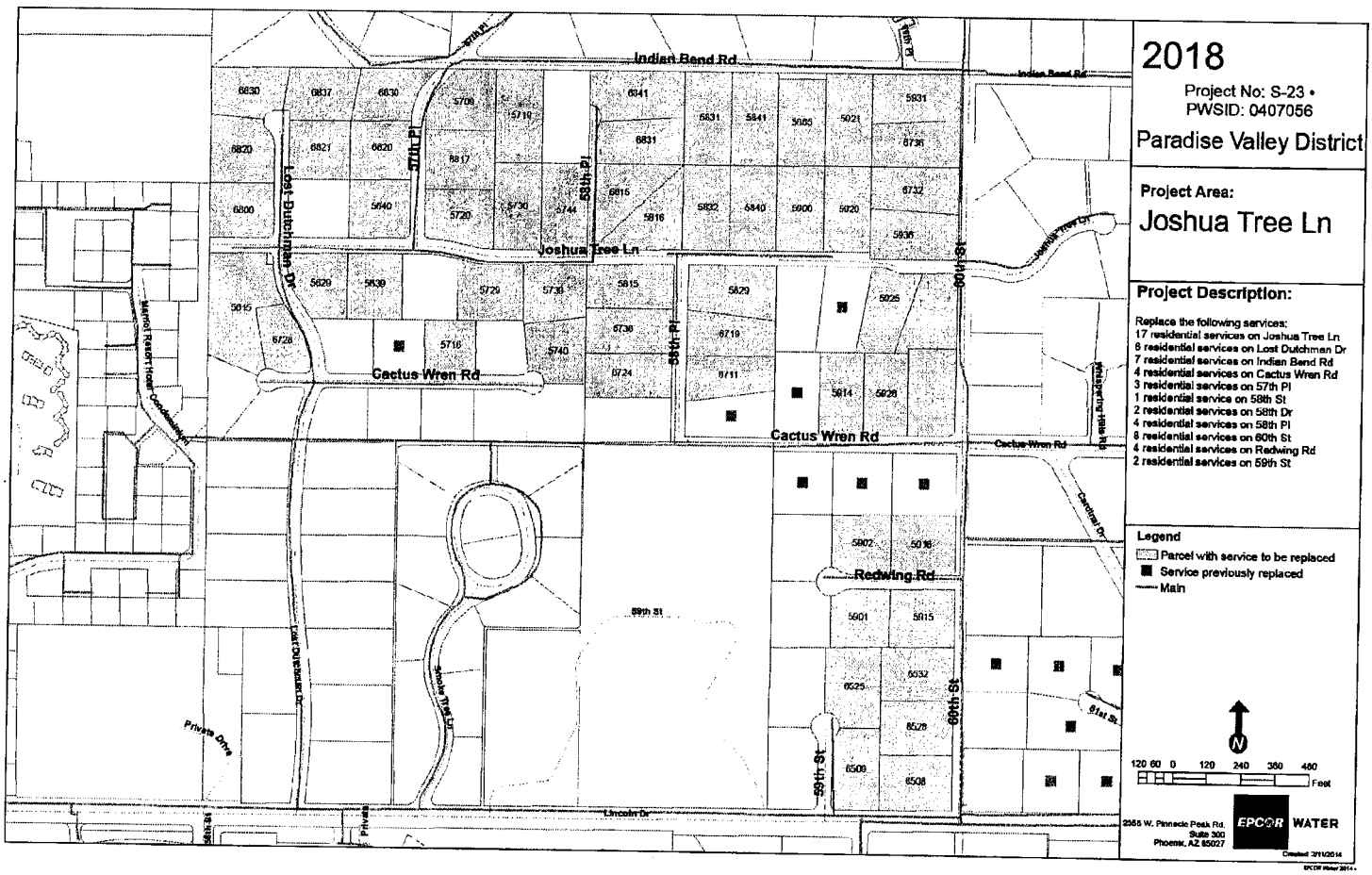
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 S-22**	Project Location: Desert Fairways, Palo Verde Ln, Desert Fairways Dr, Arroyo Rd, Pepper Tree Ln, Mummy Mountain Rd

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
37	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 129,500
5	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 17,800
3	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 10,860
45	hour	28	Company labor for field oversight and construction management	$ 1,260
Subtotal				$ 159,420
General Overhead Rate on Labor and Capital (10%)				$ 15,942
Total Estimated Cost				**$ 175,362**


2018
Project No: S-23 •
PWSID: 0407056
Paradise Valley District
Project Area:
Joshua Tree Ln
Project Description:
Replace the following services:
17 residential services on Joshua Tree Ln
6 residential services on Lost Dutchman Dr
7 residential services on Indian Bend Rd
4 residential services on Cactus Wren Rd
3 residential services on 57th Pl
1 residential service on 58th St
2 residential services on 58th Dr
4 residential services on 58th Pl
8 residential services on 60th St
4 residential services on Redwing Rd
2 residential services on 59th St
Legend
Parcel with service to be replaced
Service previously replaced
Main
Indian Bend Rd
Joshua Tree Ln
Cactus Wren Rd
Redwing Rd
Lost Dutchman Dr
57th Pl
58th Pl
59th St
60th St
Lincoln Dr
Private Drive
Whispering Hills Rd
Cardinal Dr
Marriot Resort Hotel Condominium
Snake Tree Ln
120 60 0 120 240 360 480
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 S-23**	Project Location: Joshua Tree Ln, Lost Dutchman Dr, Indain Bend Rd, Cactus Wren Rd, 57th Pl, 58th St, 58th Pl, 60th St, Redwing Rd, 59th St

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
49	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 171,500
6	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 21,360
3	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 10,860
58	hour	28	Company labor for field oversight and construction management	$ 1,624
Subtotal				$ 205,344
General Overhead Rate on Labor and Capital (10%)				$ 20,534
Total Estimated Cost				**$ 225,878**

Paradise Valley – PWS ID No. 0407056

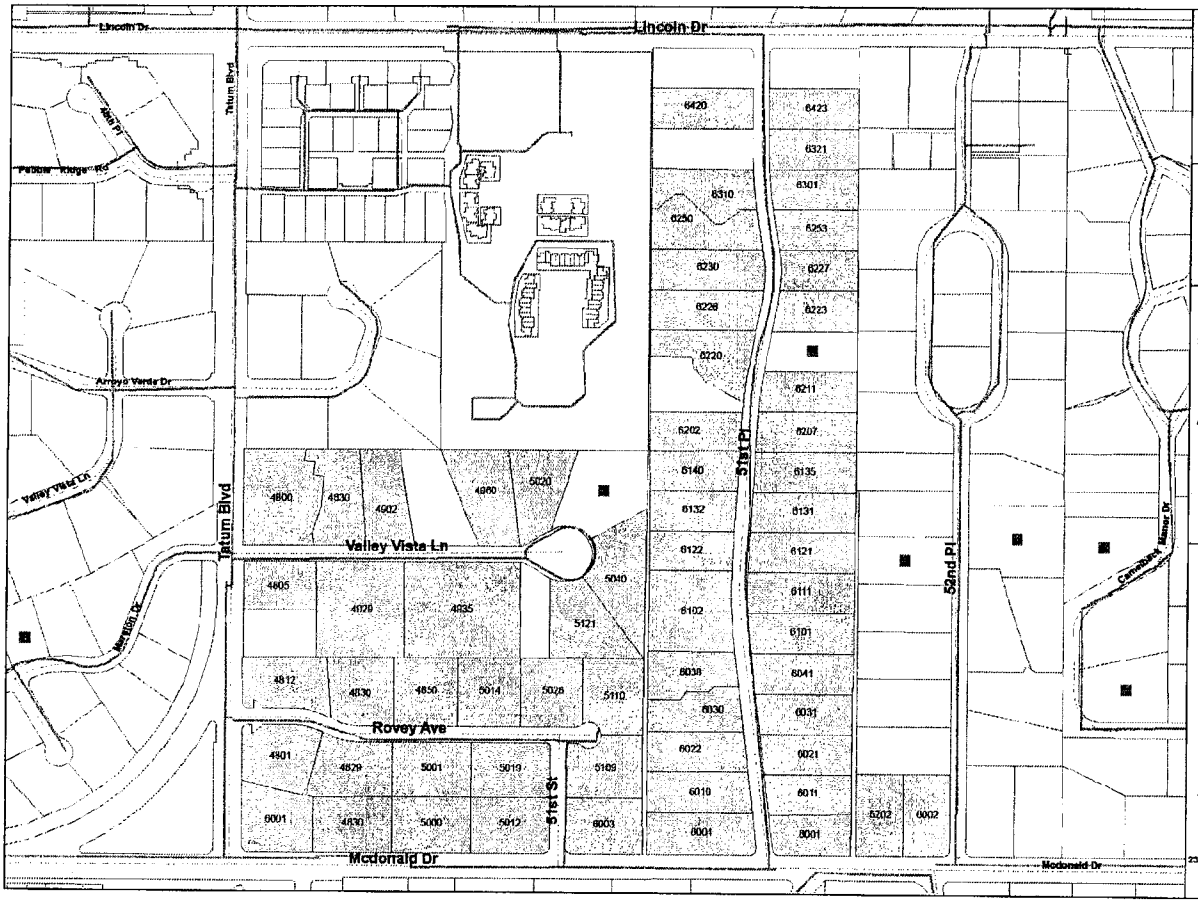
SIB PLANT TABLE I, 1-5

2019 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-24	333	service lines	62	51-1" 7-1.5" 4-2"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	51st Pl	12/2019	n/a	$241,600	Replace 51-1", 7-1.5", and 4-2" (62 total) residential services along 51st Pl, Valley Vista Ln, and Rovey Ave. These services are a priority for replacement because they are galvanized steel pipe and are will be about 66 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-24 in Exhibit CC-1-C for more detail.
S-25	333	service lines	63	63-1"	Copper	1"-$3,881	Marston Dr	12/2019	n/a	$244,490	Replace 63-1" residential and commercial services along Arroyo Verde Dr, Valley Vista Ln, and Marston Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 41 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-25 in Exhibit CC-1-C for more detail.

S-26	333	service lines	30	30-1"	Copper	1"-$3,881	Pebble Ridge Rd	12/2019	n/a	$116,424	Replace 30-1" residential services along Pebble Ridge Rd. These services are a priority for replacement because they are galvanized steel pipe and will be about 45 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-26 in Exhibit CC-1-C for more detail.
S-27	333	service lines	41	36-1" 5-1.5"	Copper	1"-$3,881 1.5"-$3,947 2"-$4,013	Claremont Ave and Maderos Del Cuenta Dr	12/2019	n/a	$159,443	Replace 36-1" and 5-1.5" (41 total) residential services on Claremont Ave, 42nd St, Marlette Ave, and Maderos Del Cuenta Dr. These services are a priority for replacement because they are galvanized steel pipe and will be about 41 years old in 2019. Galvanized pipe is prone to corrosion and has been shown to have a useful lifetime less than 40 years. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-27 in Exhibit CC-1-C for more detail.
Total			196							$761,957	



2019

Project No: S-24 •
PWSID: 0407056

Paradise Valley District

Project Area:

51st Place

Project Description:

Replace the following services:
34 residential services on 51st Pl
10 residential services on Valley Vista Ln
1 residential service on 52nd Pl
1 residential service on Tatum Blvd
1 residential service on 51st St
11 residential services on Rovey Ave
4 residential services on Mcdonald Dr

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

110 55 0 110 220 330 440 Feet

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

EPCOR WATER

Created: 2/1/2019

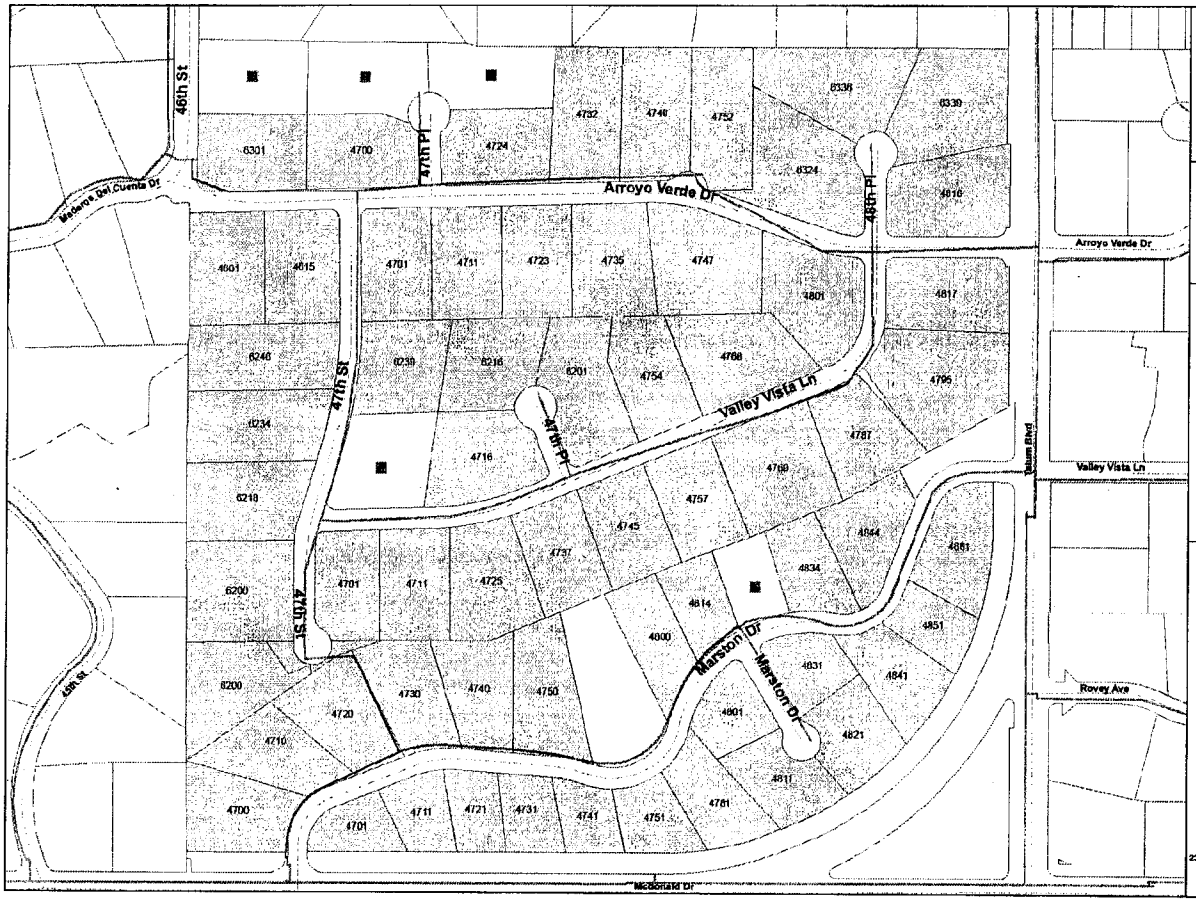
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2019 S-24**	Project Location: 51st Pl, Valley Vista Ln, 52nd Pl, Tatum Blvd, 51st St, Rovey Ave, McDonald Dr	

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
51	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 178,500
7	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 24,920
4	2" service	3620	Contractor materials and labor to replace 2" residential services	$ 14,480
62	hour	28	Company labor for field oversight and construction management	$ 1,736
Subtotal				$ 219,636
General Overhead Rate on Labor and Capital (10%)				$ 21,964
Total Estimated Cost				**$ 241,600**



2019

Project No: S-25 •
PWSID: 0407056

Paradise Valley District

Project Area:

Marston Dr

Project Description:

Replace the following services:
24 residential services on Marston Dr
10 residential services on Valley Vista Ln
16 residential services on Arroyo Verde Dr
6 residential services on 47th St
3 residential services on 48th Pl
3 residential services on 47th Pl
1 residential service on 46th St
1 commercial service on Valley Vista Ln

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

80 40 0 80 160 240 320
Feet

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

EPCOR WATER

Created: 2/11/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2019 S-25**	Project Location: Marston Dr, Valley Vista Ln, Arroyo Verde Dr, 47th St, 48th Pl, 47th Pl, 46th St

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
63	1" service	3,500	Contractor material and labor to replace 1" residential and commercial services	$ 220,500
63	hour	28	Company labor for field oversight and construction management	$ 1,764
Subtotal				$ 222,264
General Overhead Rate on Labor and Capital (10%)				$ 22,226
Total Estimated Cost				**$ 244,490**

2019

Project No: S-26 •
PWSID: 0407056

Paradise Valley District

Project Area:

Pebble Ridge Rd

Project Description:

Replace the following services:
23 residential services on Pebble Ridge Rd
3 residential services on 48th Pl
3 residential services on 48th St
1 residential service on 48th St

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 2/11/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2019 S-26**	Project Location: Pebble Ridge Rd, 48th St, 48th Pl, 46th St

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
30	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 105,000
30	hour	28	Company labor for field oversight and construction management	$ 840
Subtotal				$ 105,840
General Overhead Rate on Labor and Capital (10%)				$ 10,584
Total Estimated Cost				**$ 116,424**

2019

Project No: S-27 •
PWSID: 0407056

Paradise Valley District

Project Area:

Claremont Ave

Project Description:

Replace the following services:
13 residential services on
Madeiros De Cuenta Dr
9 residential services on Marlette Ave
11 residential services on Claremont Ave
8 residential services on 42nd St

Legend

- Parcel with service to be replaced
- Service previously replaced
- Main

N

90 45 0 90 180 270 360
Feet

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

EPCOR WATER

Created: 3/11/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2019 S-27**	Project Location: Claremont Ave, 42nd St, Marlette Ave, Maderos Del Cuenta Dr	

Project Description:

Replace galvanized service lines with copper service lines to reduce water leaks and emergency repairs.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
36	1" service	3,500	Contractor material and labor to replace 1" residential services	$ 126,000
5	1.5" service	3,560	Contractor materials and labor to replace 1.5" residential services	$ 17,800
41	hour	28	Company labor for field oversight and construction management	$ 1,148
Subtotal				$ 144,948
General Overhead Rate on Labor and Capital (10%)				$ 14,495
Total Estimated Cost				$ **159,443**

SECTION 2 – VALVES

2.1 Overview

The Paradise Valley water system contains about 1,500 distribution system valves. Maintenance records have shown that many of these valves are leaking and/or inoperable. Parts of the system were installed in the 1940s and about a quarter of the distribution valves will be about 70 years old by the end of this decade. As valves age, they are prone to deterioration and the parts begin to fail. Common failures include stripped, broken, or bent stems, leaking O-rings or packing, corrosion or cracking of the valve body, corrosion of the connecting bolts, and wear on the valve disk and seat.

2.2 Nessie Curve

As described in Section 1, a "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. It is not economical or feasible to inspect all buried infrastructure so the curve uses historical replacement data and statistical analysis to determine the end of an asset's useful lifetime. The end of an asset's useful life is when it is considered economically efficient to replace it, or when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

Exhibit 2-1 is the Nessie curve which was developed specifically for the valves in EPCOR's Paradise Valley water district. Exhibit 2-2 shows the same data in tabular format. The curve shows that a large investment in valve replacements should occur before 2030. In the next six years, from 2015 through 2020, approximately $1.3 million should be spent on valve replacements, or about $217,000 per year. This equates to about 40 valve replacements per year.

Exhibit 2-1 – Valve Nessie Curve

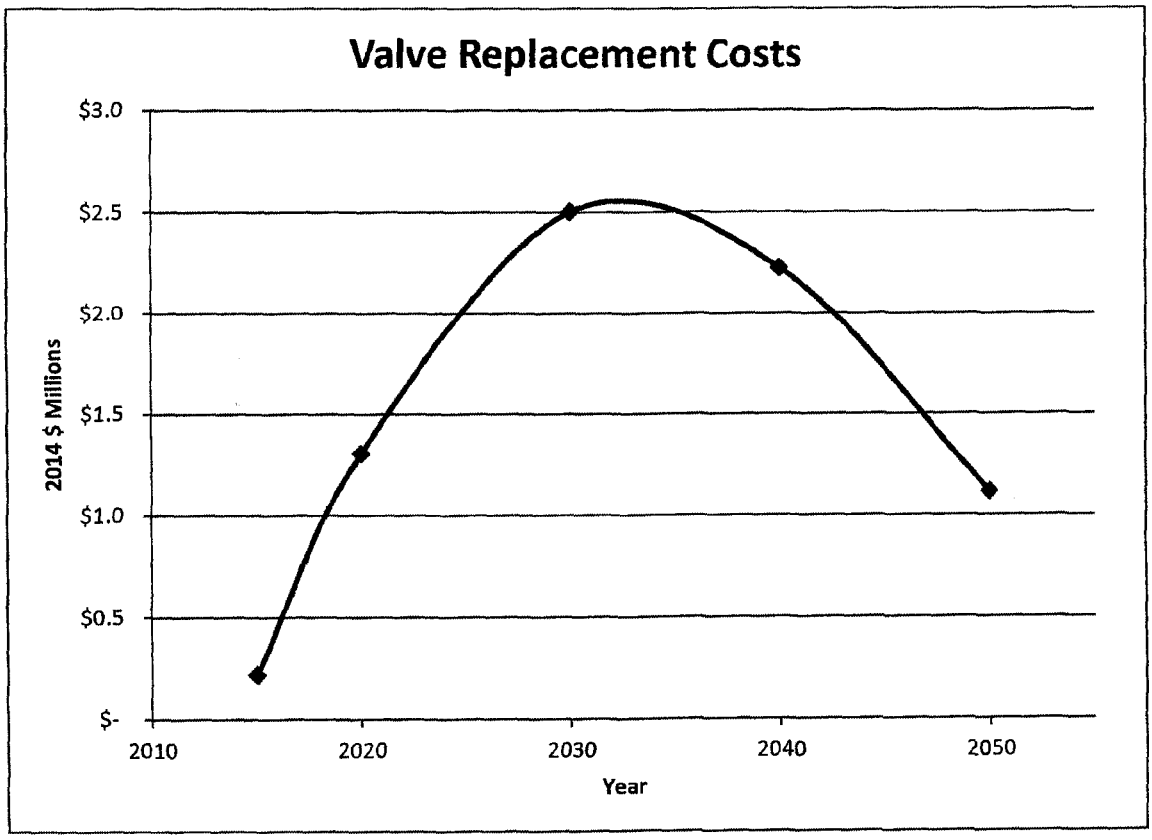


Exhibit 1-2 Nessie Curve Table

Time Frame	Number of Valves to be Installed	Cost to Replace Valves	Number of Valve Replacements per Year	Cost per Year
today-2020	238	$ 1,305,347	40	$ 217,558
2020-2030	457	$ 2,502,637	46	$ 250,264
2030-2040	407	$ 2,225,833	41	$ 222,583
2040-2050	204	$ 1,115,080	20	$ 111,508

2.3 Valve Replacements

Historically, valves in this district were replaced if found broken during main break repairs or other system maintenance. In the past two years, 47 valves were replaced because they were leaking and/or inoperable (data for these replacements can be found in the **Historical Replacement Data** tab). The average age of these valves was 52 years old. Approximately 25% of the system valves in the Paradise Valley district are 52 years old or older.

Implementation of a more rigorous valve maintenance program will ensure that about 20% of the system valves are tested each year. As more valves are tested, it is expected that in the first few years more valves will be found in need of replacement. This number should decrease as all valves in the system are exercised and maintained regularly. This maintenance program will increase system reliability and reduce customer service disruptions.

The Nessie curve analysis suggests a replacement rate of 40 valves per year is needed. Therefore, EPCOR's goal is to replace close to 40 valves per year under this plan, although it is impossible to know how many valves will actually need to be replaced in each maintenance area. Additionally, it is assumed that the size of valves that will need replacement will be approximately proportional to the percentage of system valves of each size. The investment over five years for valve replacements is estimated to be $1.1 million.

Valve replacement projects are described in the following tabs labeled **2015, 2016, 2017, 2018,** and **2019.** SIB Plant Table I, 2-1 through SIB Plant Table I, 2-5 provide detailed descriptions of each valve replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 2-1) through 2019 (Table I, 2-5). Each project addresses a set of valve replacements that will occur within a defined area. Each project can also be tied to a map showing the proposed valve replacements as well as any valves in the vicinity that were found broken in the past three years (note that valve replacements that occurred prior to 2011 or were part of main replacement projects are not shown on these maps). A cost estimate for each project is also provided.

PARADISE VALLEY WATER DISTRICT - VALVE REPLACEMENTS 2012-2013

ADDRESS	SIZE	REPLACEMENT DATE	INSTALL YEAR	NOTES
7605 E Paradise View Dr	6"	2/29/2012	1956	Gate Valve
6028 N Quail Run	6"	4/30/2012	1960	6" Gasket
6615 N Scottsdale Rd	8"	5/31/2012	1981	8" Gate Valve
6621 N Scottsdale Rd	8"	5/31/2012	1981	8" Gate Valve
E McDonald Dr and N 51st Pl	4"	7/31/2012	1953	Gate Valve, backfill, paving
5200 N Wilkinson	4"	9/30/2012	1955	Gate valve, fittings, backfill, asphalt
6300 N 56th St	6"	9/30/2012	1958	Gate valve, fittings, backfill, asphalt
6900 E Chaparral Rd	4"	9/30/2012	1954	Gate valve, fittings, backfill, asphalt
E Chaparral Rd and N Wilkinson Rd	4"	9/30/2012	1956	Gate valve, fittings, backfill, asphalt
6000 N Scottsdale Rd	8"	10/31/2012	1953	Insertion Valve, fittings, backfill, asphalt
6530 E Malcom Dr	6"	10/31/2012	1956	Gate valve, fittings, backfill, asphalt
6600 E Chaparral Rd	6"	10/31/2012	1956	Gate valve, fittings, backfill, asphalt
7300 E McDonald Dr	6"	10/31/2012	1954	Insertion Valve, fittings, backfill, asphalt
N 66th St and E Solano Dr	6"	10/31/2012	1975	Gate valve, fittings, backfill, asphalt
E Chaparral Rd and N Wilkinson Rd	4"	11/30/2012	1956	Gate valve, fittings, backfill, asphalt
6800 E Chaparral Rd	4"	11/30/2012	1954	Gate valve, fittings, backfill, asphalt
6000 N Casa Blanca Dr	4"	11/30/2012	1957	Gate valve, fittings, backfill, asphalt
N 73rd Place and E McLellan Blvd	8"	11/30/2012	1974	Gate valve, fittings, backfill, asphalt
N Quail Run Rd and E Montebello Ave	6"	2/28/2013	1956	Gate Valve, fittings, backfill, paving
6000 N Quail Run Rd	6"	2/28/2013	1960	Gate Valve, fittings, backfill, paving
6000 N Quail Run	6"	3/31/2013	1960	Gate Valve, fittings, backfill, paving
5525 E Lincoln Dr	6"	3/31/2013	1956	Gate Valve, fittings, backfill, paving
5525 E Lincoln Dr	6"	3/31/2013	1956	Gate Valve, fittings, backfill, paving
5525 E Lincoln Dr	6"	3/31/2013	1956	Gate Valve, fittings, backfill, paving
5800 N 66th St	4"	5/31/2013	1953	Gate valve, fittings, backfill, paving
6100 E Lincoln Dr	4"	5/31/2013	1956	Gate valve, fittings, backfill, paving
E Lincoln Dr and N Cattletrack Rd	16"	5/31/2013	1956	Butterfly Valve, fittings, backfill, paving
6800 E Vermont Ave	6	5/31/2013	1960	Gate valve, fittings, backfill, paving
7400 E Valley Vista	8	5/31/2013	1974	Gate valve, fittings, backfill, paving

PARADISE VALLEY WATER DISTRICT - VALVE REPLACEMENTS 2012-2013

ADDRESS	SIZE	REPLACEMENT DATE	INSTALL YEAR	NOTES
4820 N 68th St	6"	7/31/2013	1958	Gate valve, fittings, backfill, paving
4810 N 68th st	8"	7/31/2013	1968	Gate valve, fittings, backfill, paving
E Cactus Wren Rd and E Joshua Tree Ln	4"	8/31/2013	1957	4" gate valve and fittings
6900 N Mummy Mountain Rd	6"	8/31/2013	1954	6" gate valve and fittings
6900 N Mummy Mountain Rd	8"	8/31/2013	1954	8" gate valve and fittings
N 60th St and E Cactus Wren Rd	8"	9/30/2013	1953	Gate Valve, fittings, backfill, paving
N 60th St and E Cactus Wren Rd	8"	9/30/2013	1956	Gate Valve, fittings, backfill, paving
N 60th St and E Cactus Wren Rd	6"	9/30/2013	1953	Gate Valve, fittings, backfill, paving
7244 E Montabello	6"	9/30/2013	1978	Gate Valve, fittings, backfill, paving
5401 N Scottsdale Rd	6"	10/31/2013	1950	Gate Valve, fittings, backfill, paving
5301 N 69 Pl	6"	10/31/2013	1956	Gate Valve, fittings, backfill, paving
Chaparral and 70th Pl	8"	10/31/2013	1978	Gate Valve, fittings, backfill, paving
Chaparral and 71st St	8"	10/31/2013	1978	Gate Valve, fittings, backfill, paving
Chaparral and 69th Pl	8"	10/31/2013	1978	Gate Valve, fittings, backfill, paving
Chaparral and 69th St	8"	10/31/2013	1978	Gate Valve, fittings, backfill, paving
68th PL and Chaparral	6	11/1/2013	1956	Installed 12 x 6 tee w 6" gate valve
71ST PL and Chaparral	8	11/4/2013	1956	Installed 12 x 8 tee w 8" gate valve
7609 E Indian Bend	4	11/25/2013	1954	Installed 12 x 4 tee w 4" gate valve

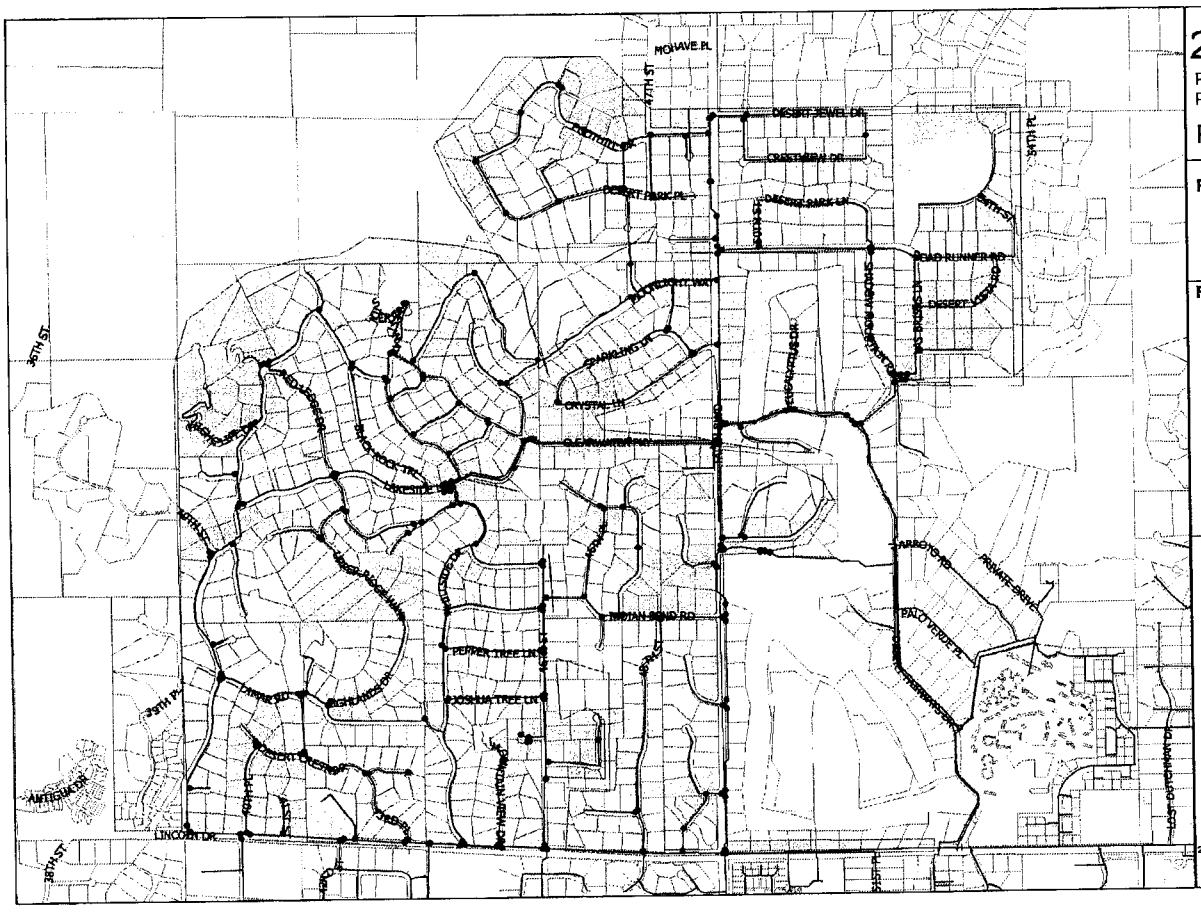
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-1

2015 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	40	5-4" 28-6" 6-8" 1-16"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 16"-$20,046	Area north of Lincoln Dr between 40th St and 54th Pl (see map V-1 for detail)	12/2015	n/a	$203,628	Replace 5-4", 28-6", 6-8", and 1-16" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-1 in Exhibit CC-1-C for more detail.
Total			**40**							**$203,628**	



2015

Project No:
PWSID: 0407056

Paradise Valley Water

Project Area:

Valve Maintenance Area V-1

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

Total Valves in Area V-1: 272

Legend

- Previous Valve Replacements (2011-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

820 410 0 820 1,240 1,880 Foot

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

EPCOR WATER

Created: 2/24/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2015 V-1**	Project Location: Area north of Lincoln between 40th St and 54th Pl

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-1.	$ 20,000
28	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-1.	$ 117,600
6	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-1.	$ 28,200
1	16" Valve	18000	Contractor material and labor to replace 16" valves in Area V-1.	$ 18,000
5	hour	28	Company labor for field oversight and construction management (4" valves)	$ 140
28	hour	28	Company labor for field oversight and construction management (6" valves)	$ 784
6	hour	28	Company labor for field oversight and construction management (8" valves)	$ 168
8	hour	28	Company labor for field oversight and construction management (16" valve)	$ 224
Subtotal				$ 185,116
General Overhead Rate on Labor and Capital (10%)				$ 18,512
Total Estimated Cost				**$ 203,628**

*Company labor includes the salary for one employee at a rate of $28/hour. Labor is estimated to be one hour for 4"-8" valves, four hours for 12" valves, and eight hours for 16" and 24" valves.

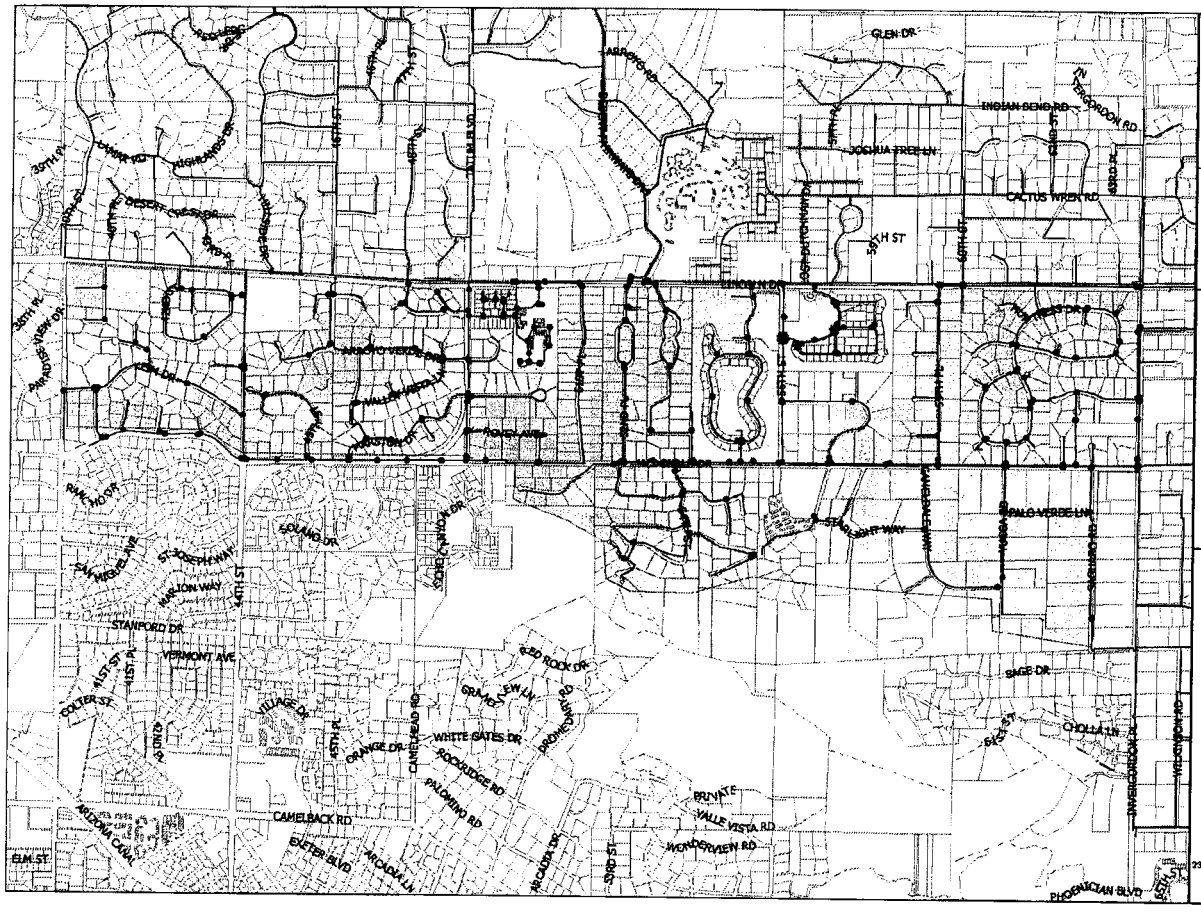
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-2

2016 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-2	331	gate valves	40	5-4" 17-6" 14-8" 3-12" 1-24"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 24"-$33,246	Area south of Lincoln Dr between 40th St and Invergordon Dr (see map V-2 for detail)	12/2016	n/a	$225,795	Replace 5-4", 17-6", 14-8", 3-12", and 1-24" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-2 in Exhibit CC-1-C for more detail.
Total			**40**							**$225,795**	



2016

Project No:
PWSID: 0407056

Paradise Valley Water

Project Area:

Valve Maintenance Area V-2

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

Total Valves in Area V-2: 296

Legend

- Previous Valve Replacements (2011-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

825 412.5 0 825 1,650 2,475 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water 2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2016 V-2**	Area south of Lincoln between 40th St and Invergordon

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-2.	$ 20,000
17	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-2.	$ 71,400
14	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-2.	$ 65,800
3	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-2.	$ 16,500
1	24" Valve	30000	Contractor material and labor to replace 24" valves in Area V-2.	$ 30,000
5	hour	28	Company labor for field oversight and construction management (4" valves)	$ 140
17	hour	28	Company labor for field oversight and construction management (6" valves)	$ 476
14	hour	28	Company labor for field oversight and construction management (8" valves)	$ 392
12	hour	28	Company labor for field oversight and construction management (12" valve)	$ 336
8	hour	28	Company labor for field oversight and construction management (24" valve)	$ 224
Subtotal				$ 205,268
General Overhead Rate on Labor and Capital (10%)				$ 20,527
Total Estimated Cost				**$ 225,795**

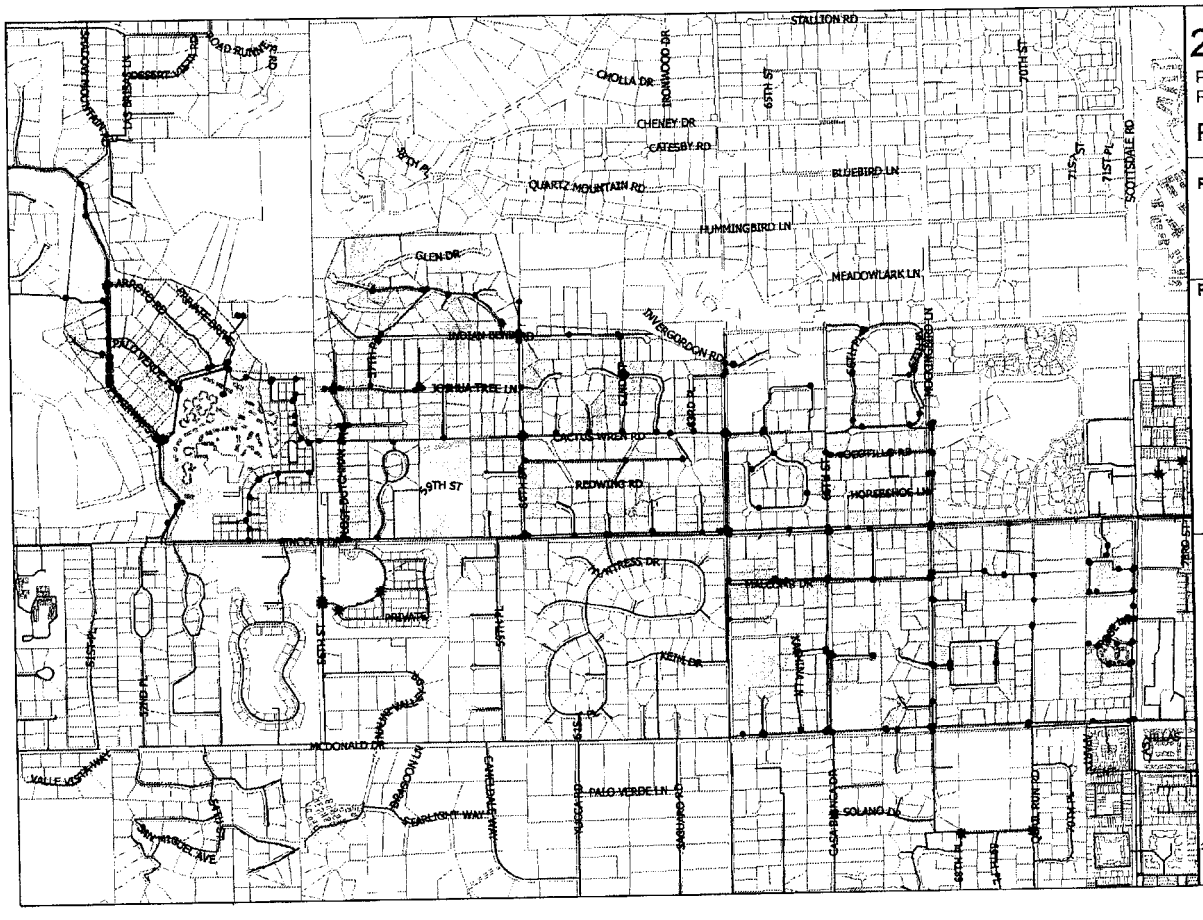
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-3

2017 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-3	331	gate valves	40	7-4" 13-6" 12-8" 9-12" 1-24"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 24"-$33,246	Area between Desert Fairways and Mockingbird Ln north of Lincoln Dr and Invergordon Dr and Scottsdale Rd south of Lincoln Dr (see map V-3 for detail)	12/2017	n/a	$242,691	Replace 7-4", 13-6", 12-8", 9-12", and 1-24" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-3 in Exhibit CC-1-C for more detail.
Total			**40**							**$242,691**	



2017

Project No:
PWSID: 0407056

Paradise Valley Water

Project Area:

Valve Maintenance Area V-3

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

Total Valves in Area V-3: 304

Legend

- Previous Valve Replacements (2011-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

720 360 0 720 1,440 2,160 Feet

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

EPCOR WATER

Created: 2/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2017 V-3**	Area between Desert Fairways and Mockingbird north of Lincoln and Invergordon and Scottsdale south of Lincoln

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
7	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-3.	$ 28,000
13	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-3.	$ 54,600
12	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-3.	$ 56,400
9	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-3.	$ 49,500
1	24" Valve	30000	Contractor material and labor to replace 24" valves in Area V-3.	$ 30,000
7	hour	28	Company labor for field oversight and construction management (4" valves)	$ 196
13	hour	28	Company labor for field oversight and construction management (6" valves)	$ 364
12	hour	28	Company labor for field oversight and construction management (8" valves)	$ 336
36	hour	28	Company labor for field oversight and construction management (12" valve)	$ 1,008
8	hour	28	Company labor for field oversight and construction management (24" valve)	$ 224
Subtotal				$ 220,628
General Overhead Rate on Labor and Capital (10%)				$ 22,063
Total Estimated Cost				**$ 242,691**

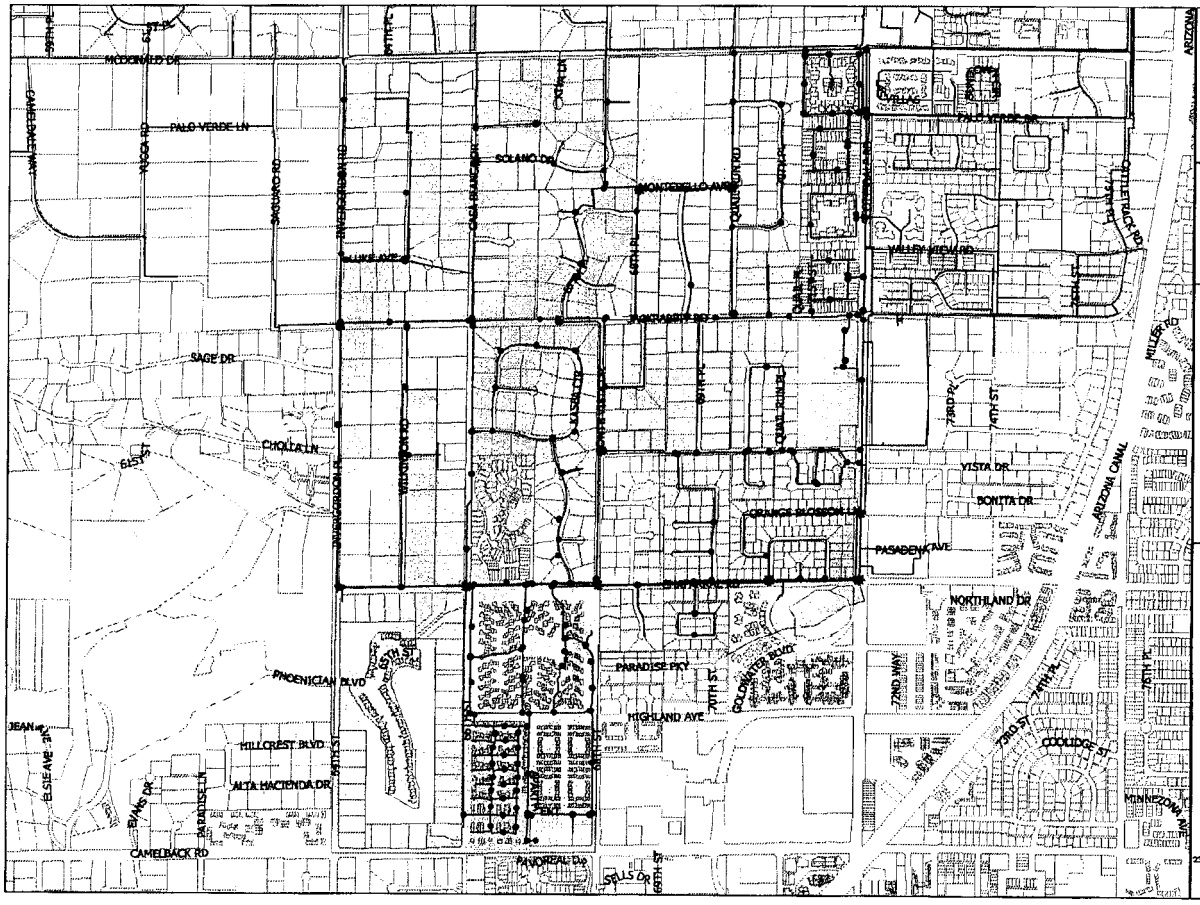
Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-4

2018 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-4	331	gate valves	40	11-4" 20-6" 7-8" 1-12" 1-16"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 16"-$20,046	Area south of McDonald Dr between Invergordon Dr and Scottsdale Rd (see map V-4 for detail)	12/2018	n/a	$204,380	Replace 11-4", 20-6", 7-8", 1-12", and 1-16" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve *maintenance program will be replaced.* Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-4 in Exhibit CC-1-C for more detail.
Total			**40**							**$204,380**	



2018

Project No:
PWSID: 0407056

Paradise Valley Water

Project Area:

Valve Maintenance Area V-4

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

Total Valves in Area V-4: 283

Legend

- Previous Valve Replacements (2011-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

560 280 0 560 1,120 1,680 Feet

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

EPCOR WATER

Created: 2/24/2014

EPCOR Water 2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Candace Coleman, P.E.	Water System: Paradise Valley	Project Year and Number: **2018 V-4**	Project Location: Area south of McDonald between Invergordon and Scottsdale

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
11	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-4.	$ 44,000
20	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-4.	$ 84,000
7	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-4.	$ 32,900
1	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-4.	$ 5,500
1	16" Valve	18000	Contractor material and labor to replace 16" valves in Area V-4.	$ 18,000
11	hour	28	Company labor for field oversight and construction management (4" valves)	$ 308
20	hour	28	Company labor for field oversight and construction management (6" valves)	$ 560
7	hour	28	Company labor for field oversight and construction management (8" valves)	$ 196
4	hour	28	Company labor for field oversight and construction management (12" valve)	$ 112
8	hour	28	Company labor for field oversight and construction management (16" valve)	$ 224
Subtotal				$ 185,800
General Overhead Rate on Labor and Capital (10%)				$ 18,580
Total Estimated Cost				**$ 204,380**

Paradise Valley – PWS ID No. 0407056

SIB PLANT TABLE I, 2-5

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (DSIC-eligible plant)	Replacement Plant Description (DSIC-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**309 Supply Mains** **331 T&D Mains** **333 Services** **334 Meters** **335 Hydrants**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-5	331	gate valves	40	1-4" 15-6" 20-8" 3-12" 1-24"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 24"-$33,246	Area east of Scottsdale Rd (see map V-5 for detail)	12/2019	n/a	$229,975	Replace 1-4", 15-6", 20-8", 3-12", and 1-24" (estimated, 40 total) distribution system valves that are leaking and/or inoperable. These numbers are only estimates and are based on the percentage of existing valve sizes in the project area. This area represents approximately 20% of the total system valves. Valves found broken as a part of the annual valve maintenance program will be replaced. Over a quarter of the system valves are nearing 70 years old. Making certain that all system valves are operational ensures that the time required to shut down water mains in the event of a main break or system maintenance is minimized. This reduces customer service disruptions and decreases water loss during main breaks. These valve replacements are not related to new growth. See Section 2 narrative and Map V-5 in Exhibit CC-1-C for more detail.
Total			40							$229,975	

2019
Project No:
PWSID: 0407056
Paradise Valley Water
Project Area:
Valve Maintenance
Area V-5
Project Description:
Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.
Total Valves in Area V-5: 307
Legend
Previous Valve Replacements (2011-2013)
Distribution System Valves
Water Main
Distribution
Maricopa County Parcels
Valve Maintenance Area
N
750 375 0 750 1,500 2,250
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 2/24/2014
INDIAN BEND RD
ARIZONA CANAL
LINCOLN DR
HAYDEN RD
VALLEY VISTA DR
MCDONALD DR
SOLANO DR
LUKE AVE
LUKE LN
VISTA DR
PASADENA AVE
CHAPARRAL RD
NORTHLAND DR
HORSESHOE LN
OCOTILLO RD
CACTUS WREN RD
KRALL ST
ROSE LN
KEIM DR
SAN MIGUEL AVE
VALLEY VIEW RD
SAGE DR
BONNIE ROSE AVE
PLAZA AVE
BONITA DR
CHOLLA LN
MILLER RD
SCOTTSDALE RD
VIA DE BELLEZA

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Candace Coleman, P.E.	Paradise Valley	**2019 V-5**	Area east of Scottsdale Rd

Project Description:

Replace old distribution system valves that are inoperable with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-5.	$ 4,000
15	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-5.	$ 63,000
20	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-5.	$ 94,000
3	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-5.	$ 16,500
1	24" Valve	30000	Contractor material and labor to replace 24" valves in Area V-5.	$ 30,000
1	hour	28	Company labor for field oversight and construction management (4" valves)	$ 28
15	hour	28	Company labor for field oversight and construction management (6" valves)	$ 420
20	hour	28	Company labor for field oversight and construction management (8" valves)	$ 560
12	hour	28	Company labor for field oversight and construction management (12" valve)	$ 336
8	hour	28	Company labor for field oversight and construction management (24" valve)	$ 224
Subtotal				$ 209,068
General Overhead Rate on Labor and Capital (10%)				$ 20,907
Total Estimated Cost				**$ 229,975**

SIB ENGINEERING REPORT

(Exhibit CC-1-B)

EPCOR Water (USA) Inc.

Sun City Water District

PWS ID No. 07-099

Revised June 11, 2014

Introduction

EPCOR Water is submitting this report as **Exhibit CC-1-B** for the direct testimony of Candace Coleman, dated March 7, 2014. The intent of this report is to support EPCOR's System Improvement Benefit (SIB) application for its Sun City water district. Included in this report are a brief system introduction followed by detailed project justifications for asset replacement projects. Each project is accompanied by the corresponding **SIB Plant Table I.**

EPCOR Water supplies water to approximately 23,000 customers in the Sun City water district. The distribution system is comprised of about 262 miles of pipe and 5,979 valves. The current rolling annual water loss is 6.14%. The district consists primarily of the original Sun City master planned community, the town of Youngtown, and the Tierra del Rio master planned community. The first two of these started in the mid-1950s while Tierra del Rio is a new development. The infrastructure in the older areas of the district is aging and many assets need replacing. Water main replacement is most needed in a part of the Coyote Lakes community where recent leaks have been numerous. Additionally, an area south of Grand Avenue has mains that have reached the end of their design life and have been leaking often.

During the past five years, approximately $3.2 million--an average of approximately $642,000 per year--was spent replacing services, meters, valves, and mains. Table A summarizes the Company's investment for the past five years by asset type. This is only a portion of the total assets that need to be replaced, and generally only addressed the egregious and visible infrastructure failures. The rate of replacement of critical assets in this system needs to be increased to ensure the reliability of the system and to decrease system water loss.

In the past, assets were replaced when there was a noticeable failure such as water surfacing. This type of reactive approach is typically more expensive as replacements usually occur in an emergency situation, sometimes requiring an interruption in water service. It may also result in water losses, overtime pay, and paying a premium for parts. Another concern, related to reactive maintenance, is public health and safety. Emergency repairs may require unanticipated shutdowns of the distribution system, leaving homes and possibly fire hydrants without water. Saturated soils, resulting from leaking pipes, may undermine roads, utilities and other structures.

EPCOR has developed a planned replacement approach to asset management for the future. This approach varies depending on the type of asset.

- For meter replacements, EPCOR is relying on industry-wide studies, local experience, and the Best Management Practice adopted in the tariff for meters.

- For service line and valve replacements, EPCOR is using an industry standard Nessie Curve that relies on age of infrastructure and historic failures to help predict the number of asset failures we will experience in the future.

- Finally, the asset management approach for water main replacements in the district is to replace the leaking mains in Coyote Lakes and areas south of Grand Avenue to reduce water loss and the number of necessary repairs.

The remainder of this report will give a detailed explanation of the replacements planned for the next five years and an overview of the condition of the Sun City water system infrastructure. Service line, valve, water main, and meter replacement projects are broken down and described by year in the SIB Plant Table I; a map and cost estimate are provided for each project. The information is organized as follows:

- Section 1 – Services
- Section 2 – Valves
- Section 3 – Mains
- Section 4 – Meters

Table B summarizes the recommended estimated project quantities and spending per category by year for the next five years. It is estimated that a total of about $11 million needs to be spent over the next five years, with an average spend of $2.2 million per year. These costs are expected to vary by year depending on field conditions, business requirements, and staff availability.

TABLE A

Historical Repairs and Replacements - Sun City, 2009-2013												
Asset Type	**2009**		**2010**		**2011**		**2012**		**2013**		**Total**	
	units	$	units	$	units	$	units	$	units	$	units	$
Main Repairs (units are number of repairs)	36	$ 182,264	48	$ 220,501	35	$ 57,381	36	$ 61,454	24	$ 188,141	179	$ 709,741
Service Repairs and Replacements	30*	$ 46,126	23*	$ 79,422	26*	$ 43,857	15*	$ 38,665	13*	$ 144,374	107*	$ 352,443
Valve Replacements	3	$ 15,236	4	$ 19,305	1	$ 18,482	6	$ 30,100	19	$ 114,436	33	$ 197,558
Meter Replacements	N/A	$ 233,173	N/A	$ 437,724	N/A	$ 606,431	N/A	$ 408,105	N/A	$ 264,893	N/A	$ 1,950,325
Total		**$ 476,798**		**$ 756,951**		**$ 726,150**		**$ 538,323**		**$ 711,844**		**$ 3,210,067**

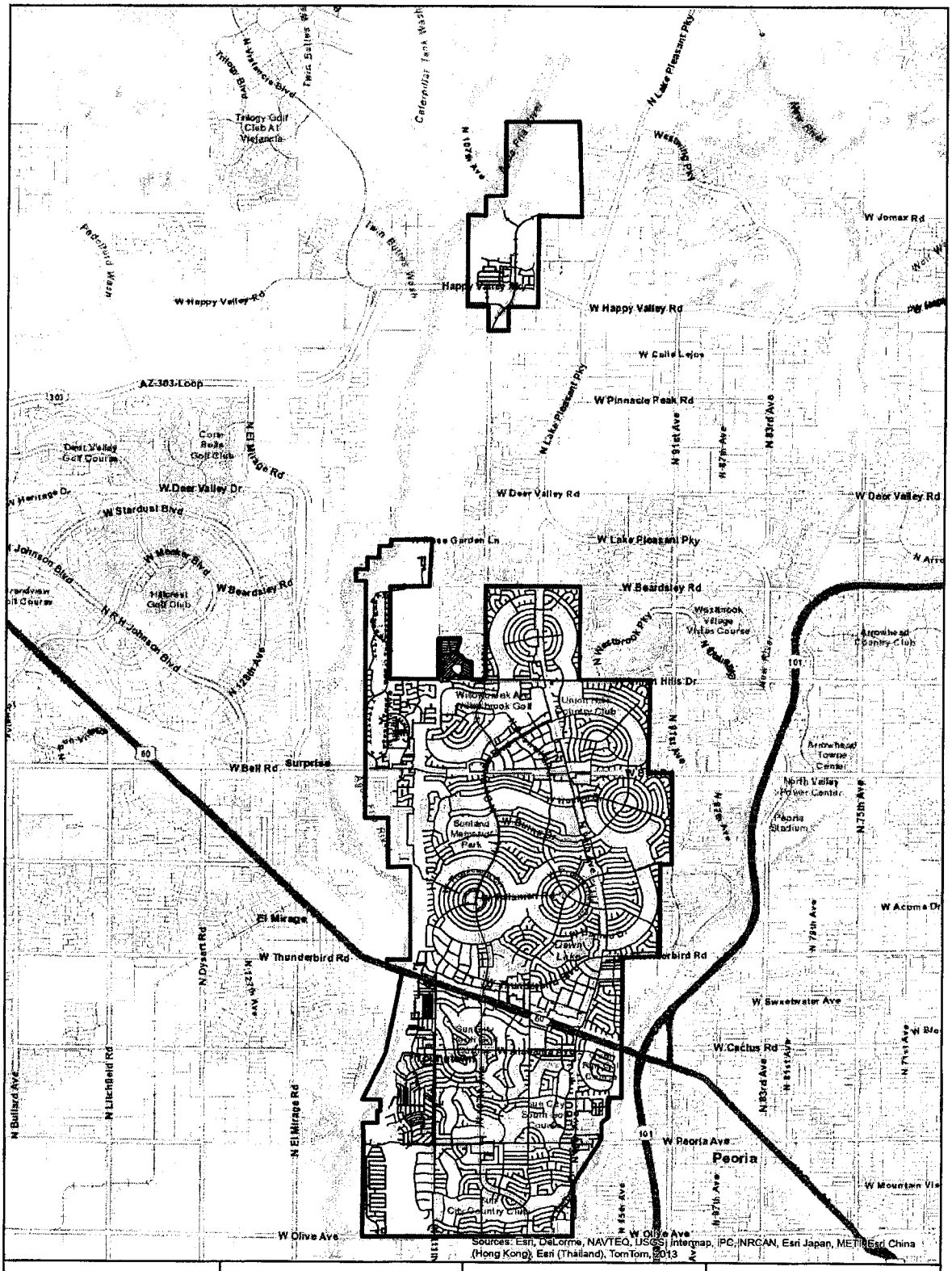
*** In addition to the data above, 312 service replacements were recently identified in the field by operations staff who physically opened meter boxes to visually verify that galvanized steel or poly pipe was replaced with copper. This number does not represent the total number of replacements in the district. Rather, it is simply the number identified in the area where staff checked. No other records are available for these replacements--the date of replacement is unknown.**

TABLE B

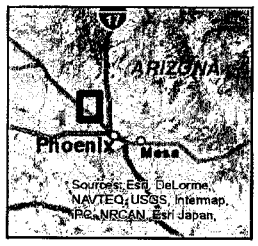
Asset Replacements - Sun City Water District, 2015-2019												
Asset Type	**2015**		**2016**		**2017**		**2018**		**2019**		**Total**	
	units	$	units	$		$	units	$	units	$	units	$
Mains (units are in feet)	5,786	$ 1,005,087	12,869	$ 1,680,440	3,854	$ 471,483	2,633	$ 349,698	3,824	$ 575,162	28,966	$ 4,081,870
Services	165	$ 650,232	-	$ -	313	$ 1,241,420	316	$1,256,363	290	$ 1,145,430	1,084	$ 4,293,445
Valves	16	$ 76,375	16	$ 81,418	16	$ 82,188	16	$ 77,018	16	$ 82,610	80	$ 399,608
Meters	2,100	$ 409,508	2,071	$ 376,982	2,292	$ 432,728	2,784	$ 534,279	2,351	$ 470,906	11,598	$ 2,224,402
Total		**$ 2,141,201**		**$ 2,138,840**		**$ 2,227,818**		**$2,217,357**		**$ 2,274,108**		**$10,999,325**

*** projected service replacement costs are higher than historical replacement costs; projected costs include contractor pricing**

**** cost estimates are in 2014 dollars and do not account for inflation**



Location Map:



Created: March 5, 2014

Prepared by: C Martinez

File name: SC_Distribution_Overview.mxd

Data source: EPCOR Water

1 inch = 1 miles

Legend

Water Main

PWSID

0407532 - Sun City Water

0407099 - Tierra Del Rio

World Street Map

Sun City District Overview Map

EPCOR WATER

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

SECTION 3 – MAINS

3.1 Overview

EPCOR's Sun City district includes about 309 miles of water mains. Most of this pipe was installed beginning in 1959 and through the 1960's and 1970's. Replacement of mains is a priority primarily due to the pipe age and material as well as the pipe bedding. Many breaks have been occurring in recent years in two main areas: the Coyote Lakes residential subdivision at the north end of the district and the oldest area of the system, south of Grand Avenue.

3.2 Nessie Curve

As explained in the previous two sections, a "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it; this is to say when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

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[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

Exhibit 3-1 is the Nessie curve which was developed specifically for the water mains in EPCOR's Sun City district. Exhibit 3-2 shows the same data in tabular format. The curve shows that in the next six years, from 2015 through 2020, approximately $13 million should be spent on main replacements, or about $2.2 million per year. This equates to about 15,600 linear feet of main replacements per year.

Exhibit 3-1 – Main Lines Nessie Curve

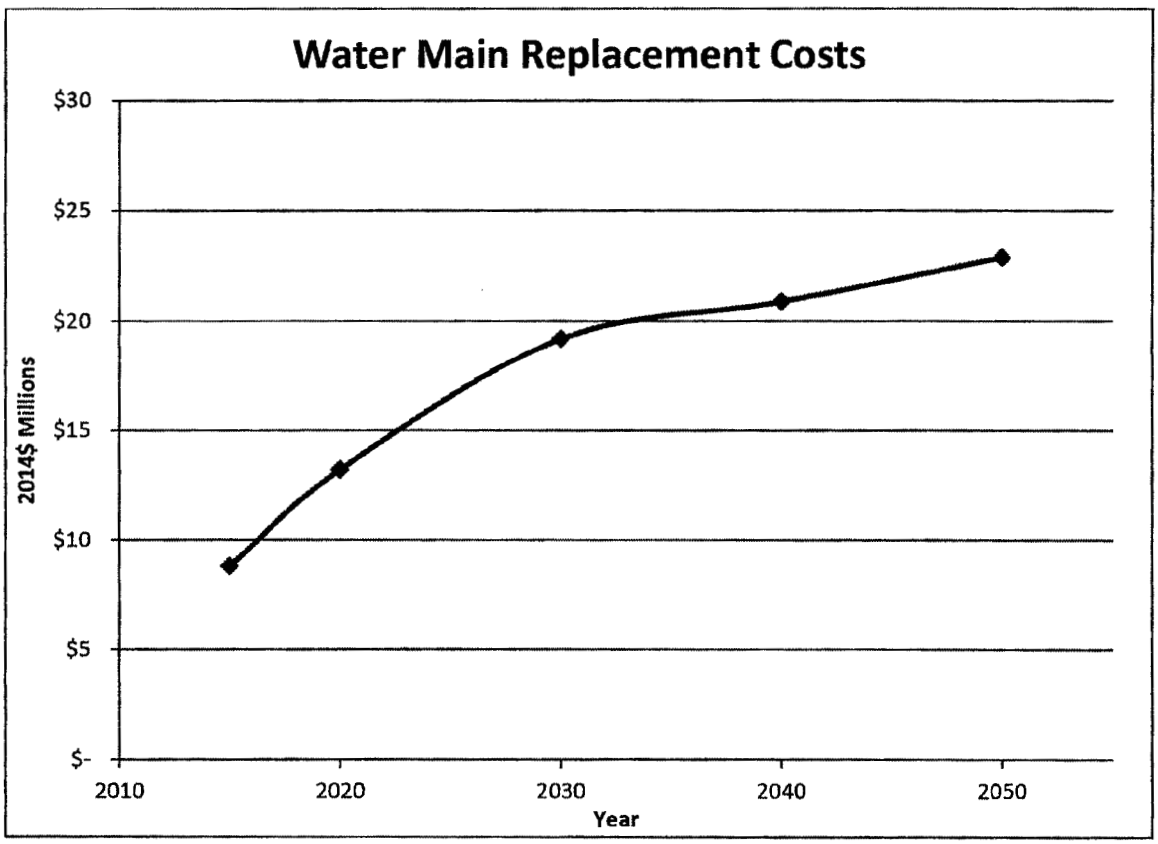


Exhibit 3-2 Nessie Curve Table

Time Frame	Linear Feet of Main to be Replaced	Cost to Replace Mains	Linear Feet of Main to be Replaced per Year	Cost per Year
today-2020	93,565	$13,192,676	15,594	$2,198,779
2020-2030	135,957	$19,169,876	13,596	$1,916,988
2030-2040	147,959	$20,862,163	14,796	$2,086,216
2040-2050	162,192	$22,869,040	16,219	$2,286,904

3.3 Main Material

The material that was used when the majority of the main lines were installed in Sun City was asbestos cement pipe (ACP), also known as "transite" pipe. During the 1940s through the 1960s, ACP was a very common choice for water pipe and other uses. The design life is considered to be 50 to 70 years. According to Williams and Von Aspern, AC pipe failure increases dramatically with age. Failure rates are about one per year per mile of pipe.[3] Therefore, a significant quantity of pipe in Sun City has reached the end of its design life, which is evident by the high number of breaks in the system. New mains will be constructed using ductile iron pipe or AWWA C-900 PVC.

3.4 Main Replacements

Historical main replacements and repairs from 2003 through 2013 are shown in the following tab, **Historical Repair/Replacement Data**. Over the past 5.5 years, about 200 main breaks have occurred in the Sun City system. This equates to an average of approximately 36 main line failures per year. Note that this doesn't include service lines which are leaking unbeknownst to EPCOR Water employees. Although the Nessie curve suggests that about 15,600 feet of pipe should be replaced per year, this would require a significant labor and capital investment that would not be feasible by the company and would put significant financial burden on the customers. Additionally, service line replacements are a high priority due to the high rate of

[3] "Asbestos Cement Pipe: What If It Needs To Be Replaced?", Williams, G. Eric and Von Aspern, Kent. Retrieved from http://www.mtpinnacle.com/pdfs/CD_M.pm_02.30_Williams.pdf on February 7, 2014.

failures (see Section 1 for more information). Therefore, EPCOR proposes to spend an average of about $816,000 per year in main replacements for the next five years. This equates to a total of about 29,000 feet of main at a cost of $4.1 million.

Main replacement projects are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019**. SIB Plant Table I, 3-1 through SIB Plant Table I, 3-5 provide a detailed description of each main replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 3-1) through 2019 (Table I, 3-5). Each project addresses a set of main replacements that will occur within a defined area. Each project can also be tied to a map showing the main replacement as well as historical replacements in the area. (Historical data include only main replacements between 2008 and 2013; replacements prior to 2008 are not included.) A detailed cost estimate for each project is also provided.

SUN CITY DISTRICT - MAIN REPAIRS & REPLACEMENTS 2008-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE, INCHES	NOTES
10950 Union Hills Dr	12/2/1983	2/29/2008	6	
10950 W Union Hills Dr Lot 1132	12/2/1983	3/31/2008	2	
10820 W Oakmont Dr	1/1/1960	3/31/2008	4	
19390 N 99th Ave	5/25/1976	4/30/2008	2	
10914 Cherry Hills	9/11/1959	4/30/2008	4	
17678 N 115th Dr	4/14/1998	5/31/2008	8	
11819 N Balboa Dr	12/1/1963	5/31/2008	4	
11222 W Oregon Ave	1/1/1959	5/31/2008	8	
11622 N 105th Ave	4/12/1960	5/31/2008	6	
N 112th Ave & W Florida Ave	1/1/1959	5/31/2008	4	
11663 W Pincushion Ct	4/14/1998	6/30/2008	4	
11510 Langford Ct	1/1/1959	6/30/2008	1	
12335 N 111th Ave	9/11/1959	6/30/2008	1	
11663 Pincushion Ct	4/14/1998	6/30/2008	4	
18026 N Highwood Ct	6/17/1979	7/31/2008	1.5	
10950 W Union Hills Dr Lot 1727	12/2/1983	8/31/2008	2	
17351 N Coyote Lakes Pkwy	4/14/1998	10/31/2008	8	
10553 W Sun City Blvd	4/12/1960	10/31/2008	8	
10950 Union Hills Dr Lot 175	12/2/1983	10/31/2008	2	
12225 N 111th Ave	1/1/1959	10/31/2008	0	10"
12225 N Hacienda Dr	4/12/1960	10/31/2008	4	
N 105th Ave & W Clair Dr	12/31/1961	10/31/2008	6	
10950 Union Hills Lot 176	12/2/1983	11/30/2008	1.25	
19152 N Coyote Lakes Pkwy	4/14/1998	11/30/2008	8	
11650 N 105th Ave	4/12/1960	12/31/2008	6	
11838 N 105th Ave	4/12/1960	12/31/2008	6	
19100 N Coyote Lakes Pkwy	4/14/1998	12/31/2008	8	
10950 Union Hills Lot 1238	12/2/1983	12/31/2008	1.25	
10950 W Union Hills Dr Lot 1175	12/2/1983	12/31/2008	0	
10950 W Union Hills Dr	12/2/1983	1/31/2009	2	
10607 Oakmount Dr	4/12/1960	1/31/2009	8	
11840 N Hillcrest Dr	9/11/1959	1/31/2009	4	
19350 N Coyote Lakes Pkwy	4/14/1998	2/28/2009	8	
12215 N 103rd Ave	4/12/1960	3/31/2009	0	10"
10901 W Connecticut Ave	8/9/1960	3/31/2009	4	coupling
10950 Union Hills Dr Lot 2517	12/2/1983	3/31/2009	1.5	
14418 McPhee Dr	9/18/1970	4/30/2009	6	coupling
12825 111th Ave	9/11/1959	4/30/2009	0	10" / coupling
10610 W Sun City Blvd	4/12/1960	5/31/2009	8	
16818 N Burns Dr	1/1/1975	5/31/2009	12	coupling
13013 N 111th Ave	1/1/1960	5/31/2009	8	coupling
11034 W Oakmount Dr	9/11/1959	6/30/2009	8	
11601 W Mingus Ct	4/14/1998	6/30/2009	4	
12010 St Annes Dr		6/30/2009	4	coupling

SUN CITY DISTRICT - MAIN REPAIRS & REPLACEMENTS 2008-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE, INCHES	NOTES
19300 N 116th Ln	4/14/1998	7/31/2009	6	
10950 W Union Hills Dr Lot 1123	12/2/1983	7/31/2009	2	
11601 W Mingus Mountain Ct	4/14/1998	8/31/2009	4	
11533 Bobcat Ct	4/14/1998	8/31/2009	4	
11679 Prickly Pear Ct	4/14/1998	8/31/2009	4	
11811 Desert Hills Rd	4/12/1960	8/31/2009	4	coupling
N 103rd Ave & W Alabama Ave	4/12/1960	8/31/2009	0	10" / coupling
10429 Sun City Blvd	4/12/1960	9/30/2009	8	
9934 Pinehurst	12/1/1963	9/30/2009	0	10" / coupling
10950 Union Hills Lot 1369	12/2/1983	10/31/2009	2	
10950 Union Hills (Paradise & 15 Ave)	12/2/1983	10/31/2009	1.25	
N 103rd Ave & W Oakmont Dr	4/12/1960	10/31/2009	6	
12225 111th Ave	1/1/1959	11/30/2009	0	10" / coupling
12040 Hacienda Dr	4/12/1960	11/30/2009	4	coupling
W Hutton Dr & N 103rd Ave	7/5/1973	11/30/2009	6	
N Coyote Lakes Pkwy & N 115th Dr		11/30/2009	8	
N 99th Ave & W Alabama Ave	12/1/1963	11/30/2009	0	10"
10950 Union Hills / 1 Ave	12/2/1983	11/30/2009	6	
12454 Cherry Hills E	4/12/1960	12/31/2009	4	
19300 N 116th Ave	4/14/1998	12/31/2009	8	
11517 Gecko Ct	4/14/1998	12/31/2009	4	
10240 W Riviera	12/1/1963	1/31/2010	4	coupling
12002 N 105th Ave	4/12/1960	1/31/2010	6	
11832 N 105th Ave	4/12/1960	1/31/2010	6	
10625 W Sun City Blvd	4/12/1960	1/31/2010	8	
11832 N 105th Ave	4/12/1960	1/31/2010	4	
12225 N 111th Ave	9/11/1959	1/31/2010	12	
10240 Riviera Dr	12/1/1963	1/31/2010	4	
N 105th Ave & W Santa Fe Dr	1/1/1960	1/31/2010	6	
W Alabama Ave & N Thunderbird	4/12/1960	1/31/2010	4	
9426 N 112th Ave	1/5/1976	2/28/2010	2	
11318 Duluth Ave	1/1/1959	2/28/2010	0.75	
9916 W Riviera Dr	12/1/1963	2/28/2010	4	coupling
10160 N Hillcrest Dr		2/28/2010	4	coupling
10950 Union Hills Lot 524	12/2/1983	3/30/2010	1.25	
11537 W Pronghorn Ct	4/14/1998	3/30/2010	4	
10950 W Union Hills Dr	12/2/1983	3/30/2010	0	
10641 W Hogan Dr	4/12/1960	3/30/2010	3	coupling
N 113th Ave & W Tennessee Ave	1/1/1959	3/30/2010	4	
10950 W Union Hills Dr Lot 1351	12/2/1983	3/30/2010	1.25	
10950 W Union Hills Dr Lot 1371	12/2/1983	3/30/2010	1.25	
W Alabama Ave & N Cherry Hills Dr W		4/30/2010	4	
12457 Pebble Beach	9/11/1959	4/30/2010	6	
12428 Cherry Hills E	4/12/1960	4/30/2010	4	coupling

SUN CITY DISTRICT - MAIN REPAIRS & REPLACEMENTS 2008-2013

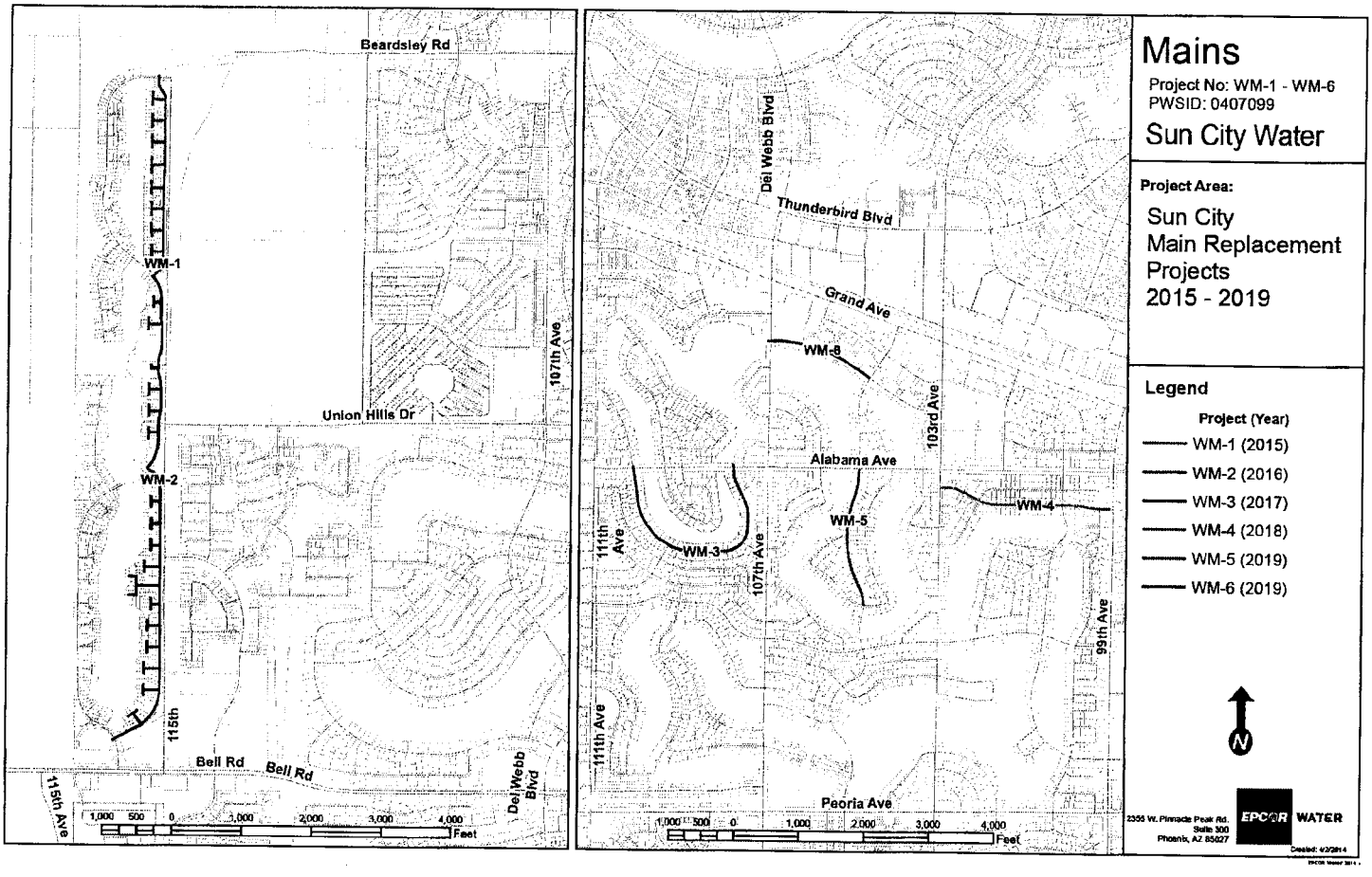
ADDRESS	INSTALL DATE	REPAIR DATE	SIZE, INCHES	NOTES
10015 West Royal Oak Road	8/3/1971	4/30/2010	12	wraparound
10016 W Peoria Ave	12/1/1963	6/30/2010	12	
12840 N Augusta Dr	9/11/1959	6/30/2010	4	
10641 W Oakmount Dr	4/12/1960	6/30/2010	8	
11151 Lily McKinley Dr	8/3/2000	7/31/2010	0	
11830 N Hacienda Dr	4/12/1960	7/31/2010	4	
N 103rd Ave & W Oakmont Dr	4/12/1960	7/31/2010	8	
11611 W Bell Rd	1/1/1995	8/31/2010	8	
11553 King Snake Ct	4/14/1998	8/31/2010	4	
9944 Riviera Dr	12/1/1963	8/31/2010	4	clamp
10802 Cherry Hills	9/11/1959	8/31/2010	4	clamp
N 111th Ave & W Florida Ave	1/1/1959	8/31/2010	0	10" / clamp
10503 Oakmount Dr	4/12/1960	9/30/2010	6	
11553 King Snake Ct	4/14/1998	9/30/2010	4	
12435 Cherry Hills	9/11/1959	9/30/2010	4	coupling
12435 Cherry Hills	9/11/1959	9/30/2010	4	coupling
10801 Oakmount Dr	9/11/1959	10/31/2010	8	coupling
115th Dr & Coyote Lakes Pkwy	4/14/1998	11/30/2010	8	
11648 Yucca Ct	4/14/1998	11/30/2010	4	
10950 W Union Hills Dr Lot 917	12/2/1983	11/30/2010	1.5	
12840 N Augusta Dr	9/11/1959	11/30/2010	4	
9916 W Riviera Dr	12/1/1963	11/30/2010	4	
10950 W Union Hills Dr Lot 127	12/2/1983	12/31/2010	2	
11802 N Hacienda Dr	4/12/1960	12/31/2010	4	coupling
10732 Cherry Hills	9/11/1959	12/31/2010	4	coupling
11802 Hacienda Dr	4/12/1960	1/31/2011	4	
10950 W Union Hills Dr Lot 1238	12/2/1983	1/31/2011	1.25	
W Bell Rd & N Lindgren Ave	11/15/1973	1/31/2011	12	
10950 W Union Hills Lot 508	12/2/1983	2/28/2011	1.25	
11602 Mingus Mountain Ct	4/14/1998	2/28/2011	4	
11816 Hillcrest Dr	9/11/1959	3/31/2011	4	repair clamp
10950 W Union Hills Dr Lot 2517	12/2/1983	3/31/2011	1.5	
W Oakmont Dr & N 108th Ave	9/11/1959	3/31/2011	8	repair clamp
10950 W Union Hills Dr East	12/2/1983	5/31/2011	6	PRV / meter
10950 W Union Hills Dr West # A	12/2/1983	5/31/2011	6	PRV / meter
10950 W Union Hills Dr Lot 1500	12/2/1983	5/31/2011	2	
SE 99th Ave & Bell Rd		5/31/2011	6	repair clamp
10401 W Thunderbird Rd	1/1/1960	6/30/2011	6	Turbo meter
105th & Desert Hills	4/12/1960	6/30/2011	0	
9980 W Santa Fe Dr	1/1/1960	6/30/2011	4	
N 103rd Ave & W Santa Fe Dr	1/1/1960	7/31/2011	0	
N 99th Ave & W Saddle Ridge Dr		7/31/2011	10	10"
11446 Pine Hollow	12/3/1999	8/31/2011	2	B.O.
N 115th Ave & N Coyote Lakes Pkwy		8/31/2011	8	

SUN CITY DISTRICT - MAIN REPAIRS & REPLACEMENTS 2008-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE, INCHES	NOTES
11626 W Hackberry Mountain Ct	4/14/1998	9/30/2011	4	
12014 Hillcrest Dr	9/11/1959	9/30/2011	4	repair clamp
10226 Riviera Dr	12/1/1963	9/30/2011	4	repair clamp
10950 W Union Hills Dr Lot 1810	12/2/1983	9/30/2011	2	
19202 N 115th Dr	4/14/1998	10/31/2011	8	
10950 Union Hills Dr	12/2/1983	10/31/2011	6	
11665 Prickly Pear Ct	4/14/1998	10/31/2011	4	
12601 N Peble Beach Dr	9/11/1959	10/31/2011	4	repair clamp
N Coyote Lakes Pkwy & W Pincushion Ct		10/31/2011	4	
11614 W Grapefruit Ct	4/14/1998	11/30/2011	4	
11002 W Cherry Hills East	9/11/1959	11/30/2011	4	
10950 W Union Hills Lot 923	12/2/1983	12/31/2011	2	
10938 Meade Dr	10/12/1971	12/31/2011	12	wrap around
19380 N 99th Ave	5/25/1976	12/31/2011	8	wrap around
N 116th Dr & W Owl Ct		12/31/2011	6	
10950 W Union Hills Dr Lot 1238	12/2/1983	12/31/2011	1.5	
11035 W Oakmont Dr	9/11/1959	1/31/2012	6	
12040 N Hacienda Dr	4/12/1960	1/31/2012	4	
10950 Union Hills Dr Lot 109	12/2/1983	1/31/2012	2	
10950 Union Hills Dr Lot 600	12/2/1983	1/31/2012	1.5	
11153 W Palmeras Dr	12/13/1974	1/31/2012	12	repair clamp
11828 Hillcrest Dr	9/11/1959	1/31/2012	4	repair clamp
W Peoria Ave & N 111th Ave	1/1/2001	1/31/2012	12	Fill Line / repair clamp
19154 N Coyote Lakes Pkwy	4/14/1998	3/31/2012	8	
19428 N Coyote Lakes Pkwy	4/14/1998	3/31/2012	6	
9922 Highwood	12/3/1973	4/30/2012	6	repair clamp
10050 W Peoria Ave	12/1/1963	4/30/2012	10	10" / repair clamp
11525 W Bobcat Ct	4/14/1998	5/31/2012	4	
11544 W Javalina Ct	4/14/1998	5/31/2012	4	
19130 N Coyote Lakes Pkwy	4/14/1998	5/31/2012	8	
9934 Riviera Dr	12/1/1963	5/31/2012	4	
12217 North Pebble Beach Drive	9/11/1959	5/31/2012	4	
W Alabama Ave & N 101st Ave	12/1/1963	5/31/2012	10	10"
10710 W Crosby Dr	8/9/1960	6/30/2012	4	
12007 N Thunderbird Rd	4/12/1960	6/30/2012	4	
W Alabama Ave & N Hillcrest Dr	9/11/1959	6/30/2012	4	
10108 W Alabama Ave	12/1/1963	7/31/2012	0	10"
10029 Shasta Dr	8/19/1971	7/31/2012	8	
N 115th Dr & W Badger Ct	4/14/1998	7/31/2012	8	
N Coyote Lakes Pkwy & N 115th Dr		7/31/2012	8	
N 111th Ave & W Oakmont Dr	9/11/1959	8/31/2012	0	10" AC Pipe
11530 Gila Monster Ct	4/14/1998	9/30/2012	0	B.O.
11657 Pincushion Ct	4/14/1998	9/30/2012	4	
12223 Pebble Beach Dr	9/11/1959	9/30/2012	4	coupling

SUN CITY DISTRICT - MAIN REPAIRS & REPLACEMENTS 2008-2013

ADDRESS	INSTALL DATE	REPAIR DATE	SIZE, INCHES	NOTES
11548 Gila Monster Ct	4/14/1998	10/31/2012	4	
9858 W Bell Rd	1/1/1975	10/31/2012	6	
107 Ave & Happy Valley	1/29/2007	11/30/2012	12	
11620 W Mingus Mountain Ct	4/14/1998	11/30/2012	4	
11556 W Coral Snake Ct	4/14/1998	12/31/2012	4	
11515 Gila Monster Ct	4/14/1998	12/31/2012	4	
12037 N Thunderbird Rd	4/12/1960	12/31/2012	4	repair clamp
10950 Union Hills Dr Lot 1359	12/2/1983	12/31/2012	1.5	
11558 W King Snake Ct	4/14/1998	1/31/2013	0	
10426 W Camden Ave	5/24/1966	1/31/2013	4	AC / wrap around
10415 W Grand Ave	1/1/1960	2/28/2013	3	meter
11840 Hillcrest Dr	9/11/1959	2/28/2013	4	repair clamp
9801 W Bell Rd	11/15/1973	2/28/2013	6	repair clamp
12812 Augusta Dr	9/11/1959	2/28/2013	4	repair clamp
10214 Riviera Dr	12/1/1963	3/31/2013	4	repair clamp
N 115th Dr & W Lizard Ct	4/14/1998	3/31/2013	8	Coyote Lakes
10902 W Cherry Hills Dr West	9/11/1959	3/31/2013	4	repair clamp
17395 Coyote Lakes Pkwy	4/14/1998	4/30/2013	8	
10415 Grand Ave	1/1/1960	4/30/2013	3	meter
12840 Augusta Dr	9/11/1959	4/30/2013	4	
10624 W Connecticut Ave	4/12/1960	4/30/2013	4	
12030 N 113th Ave	1/1/1959	5/31/2013	3	
11525 W Lizard Ct	4/14/1998	5/31/2013	4	
11660 W Lakeview Ct	4/14/1998	5/31/2013	0	B.O. relocated
11623 W Buck Mountain Ct	4/14/1998	5/31/2013	4	Review with Ops
9950 W Peoria Ave	12/1/1963	6/30/2013	0	10"
11842 N 105th Ave	4/12/1960	6/30/2013	6	
11391 N 112th Dr	1/1/1959	6/30/2013	0	
11016 W Cherry Hills	9/11/1959	7/31/2013	4	
10534 W Desert Hills	4/12/1960	7/31/2013	4	
12008 N 105th Ave	4/12/1960	7/31/2013	6	
Sunland Cemetery		7/31/2013	6	


Beardsley Rd
WM-1
107th Ave
Union Hills Dr
WM-2
115th
Bell Rd
Bell Rd
115th Ave
Del Webb Blvd
1,000 500 0 1,000 2,000 3,000 4,000 Feet
Del Webb Blvd
Thunderbird Blvd
Grand Ave
WM-6
103rd Ave
Alabama Ave
WM-4
WM-5
111th Ave
WM-3
107th Ave
99th Ave
111th Ave
Peoria Ave
1,000 500 0 1,000 2,000 3,000 4,000 Feet
Mains
Project No: WM-1 - WM-6
PWSID: 0407099
Sun City Water
Project Area:
Sun City
Main Replacement
Projects
2015 - 2019
Legend
Project (Year)
WM-1 (2015)
WM-2 (2016)
WM-3 (2017)
WM-4 (2018)
WM-5 (2019)
WM-6 (2019)
N
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 4/2/2014

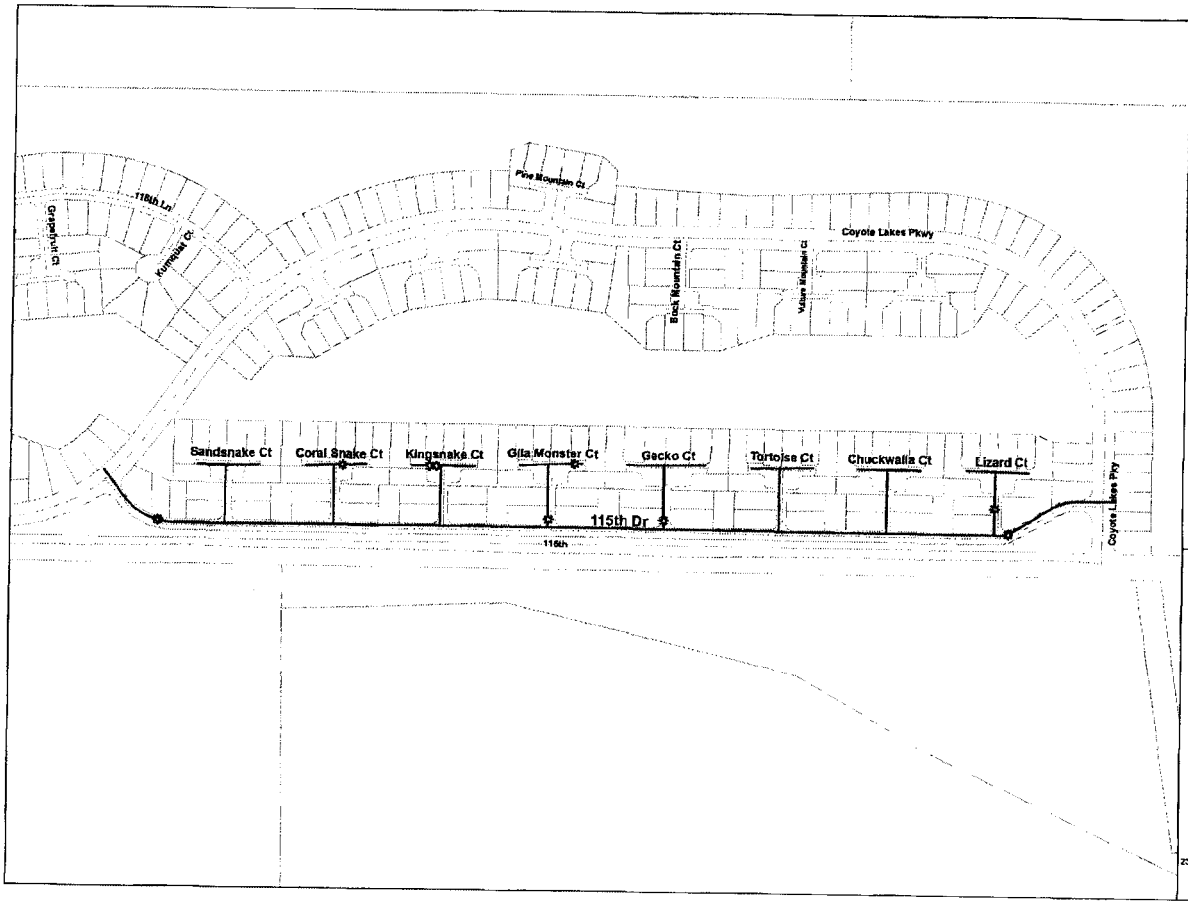
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-1

2015 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-1	331	Mains	5,786 LF	2,842 LF-4" 2,944 LF-8"	PVC	$174	115th Dr, in north 1/3 of Coyote Lakes	12/2015	n/a	$1,005,087	Replace existing mains with 2,842 LF of 4" main and 2,944 LF of 8" main in 115th Dr and adjacent cul-de-sacs in the northern 1/3 of the Coyote Lakes development. The mains were installed in 1998 in native soil which has resulted in several leaks due to rocks puncturing and cracking the pipe. Due to the high flows and pressures in this area, main breaks result in large amounts of lost water. Replacing the mains will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-1 in Exhibit CC-1-B for more detail.
Total			**5,786 LF**							**$1,005,087**	



2015

Project No: WM-1 •
PWSID: 0407099

Sun City District

Project Area:

Coyote Lakes 115th Dr

Project Description:

Replace existing main with 2,842 LF of 4" main and 2,944 LF of 8" main in 115th Dr and in each cul-de-sac along 115th Dr east of Coyote Lakes Pkwy. The existing main was installed in 1998 in native soil which has resulted in several leaks due to rocks puncturing and cracking the pipe.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water 2014 •

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, P.E.	Sun City	**2015 WM-1**	Coyote Lakes--115th Dr

Project Description:
Replace existing main with 2,842 LF of 4" 2,944 LF of 8" main in 115th Dr and adjacent cul-de-sacs in the north 1/3 of the Coyote Lakes development.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5,786	linear feet	135	Contractor material and labor to replace existing mains	$ 781,110
1	lump sum	100,000	Consultant engineering design	$ 100,000
263	hours	35	Company labor for field oversight and inspections	$ 9,205
520	hours	45	Company labor for project management	$ 23,400
Subtotal				$ 913,715
General Overhead Rate on Labor and Capital (10%)				$ 91,372
Total Estimated Cost				**$ 1,005,087**

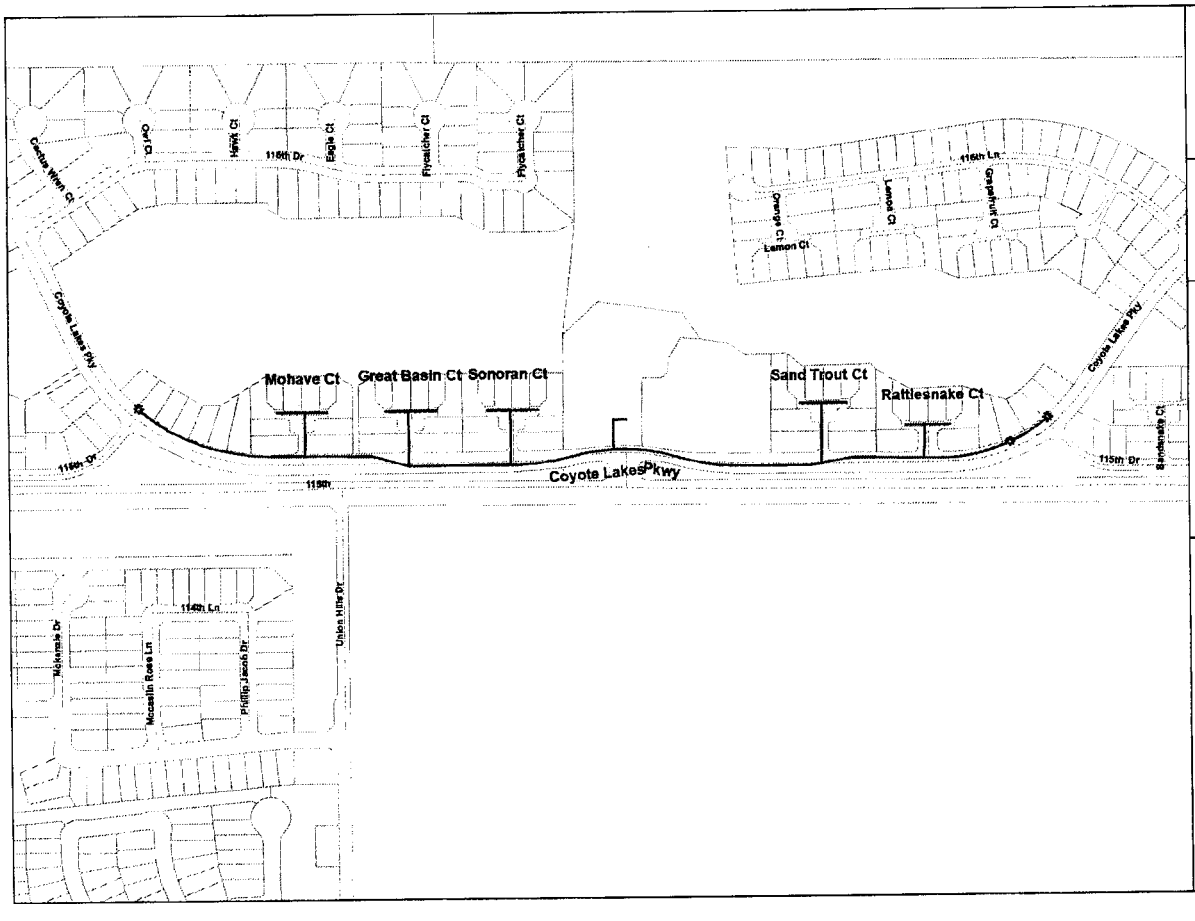
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-2

2016 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 *Meters***	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-2	331	Mains	12,869 LF	4,871 LF-4" 832 LF-6" 6,004 LF-8" 1,170 LF-12"	PVC	$131	115th Dr, Coyote Lakes Pkwy. in south 2/3 of Coyote Lakes	12/2016	n/a	$1,680,440	Replace existing mains with 4,871 LF of 4", 832 LF of 6", 6,004 LF of 8", and 1,170 LF of 12" main in 115th Dr. in Coyote Lakes Pkwy, and in adjacent cul-de-sacs in the southern 2/3 of the Coyote Lakes development The mains were installed in 1998 in native soil which has resulted in several leaks due to rocks puncturing and cracking the pipe. Due to the high flows and pressures in this area, main breaks result in large amounts of lost water. Replacing the mains will help reduce system water loss and improve system reliability. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-2 in Exhibit CC-1-B for more detail.
Total			**12,869 LF**							**$1,680,440**	



2016

Project No: WM-2 (Part 1) •
PWSID: 0407099

Sun City District

Project Area:

Coyote Lakes
Coyote Lakes Pkwy

Project Description:

Replace existing main with
1,423 LF of 4" main
203 LF of 6" main, 1,678 LF of 8" main,
and 1,170 LF of 12" main
in Coyote Lakes Pky and in each
cul-de-sac along Coyote Lakes Pkwy.
The existing main was installed in 1998 in
native soil which has resulted in several
leaks due to rocks puncturing and cracking
the pipe.

Legend

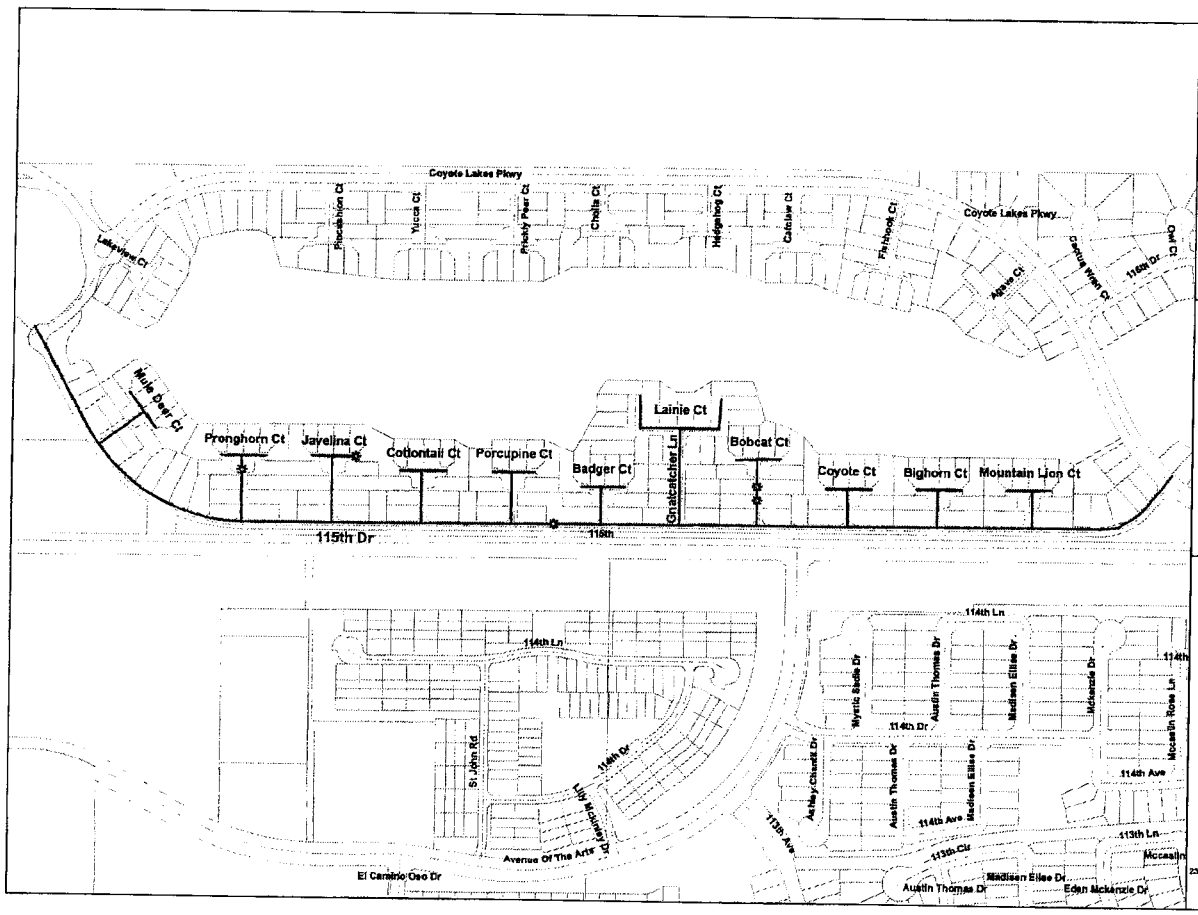
- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

110 55 0 110 220 330 440 Feet

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

EPCOR WATER

Created: 3/24/2014



2016

Project No: WM-2 (Part 2)-
PWSID: 0407099

Sun City District

Project Area:

Coyote Lakes 115th Dr

Project Description:

Replace existing main with
3,448 LF of 4" main,
629 LF of 6" main,
and 4,326 LF of 8" main
in 115th Dr and in each cul-de-sac
along 115th Dr east of Coyote Lakes Pkwy.
The existing main was installed in 1998 in native soil which has resulted in several leaks due to rocks puncturing and cracking the pipe.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

130 65 0 130 260 390 520 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water 2014 ©

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2016 WM-2**	Project Location: Coyote Lakes--Coyote Lakes Pkwy/115th Dr	

Project Description:

Replace existing main with with 4,871 LF of 4", 832 LF of 6", 6,004 LF of 8", and 1,170 LF of 12" main in 115th Dr and in Coyote Lakes Pkwy (and adjacent cul-de-sacs) in the south 2/3 of the Coyote Lakes development (east side).

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
12,869	linear feet	117	Contractor material and labor to replace existing mains with PVC	$ 1,505,673
1	lump sum	0	Consultant engineering design (complete as part of project WM-1)	$ -
500	hours	35	Company labor for field oversight and inspections	$ 17,500
100	hours	45	Company labor for project management	$ 4,500
Subtotal				$ 1,527,673
General Overhead Rate on Labor and Capital (10%)				$ 152,767
Total Estimated Cost				**$ 1,680,440**

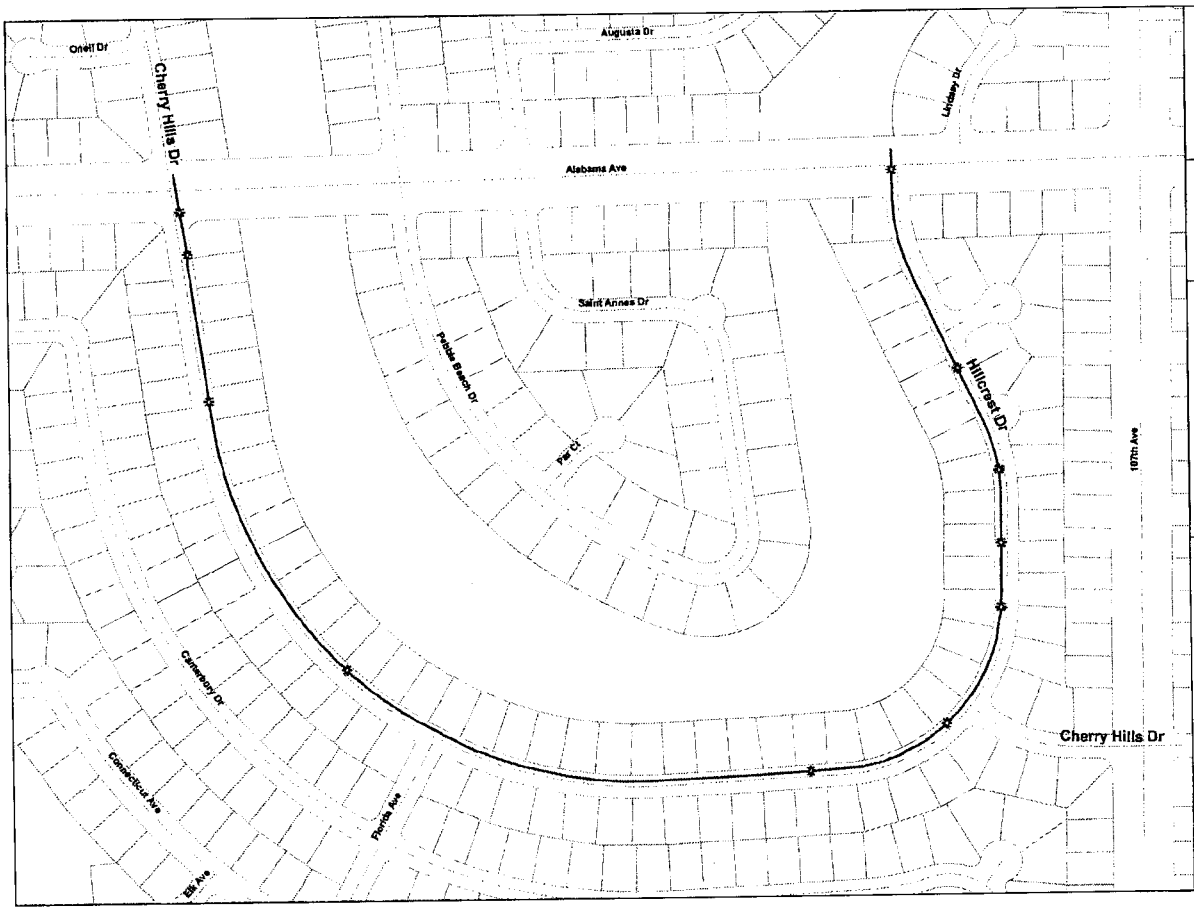
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-3

2017 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-3	331	Mains	3,854 LF	6"	PVC	$122	Cherry Hills Dr/Hillcrest Dr	12/2017	n/a	$471,483	Replace existing main with 3,854 LF of 6"main in Cherry Hills Dr and Hillcrest Dr south of Alabama Ave. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. The existing main is 4" in diameter which cannot support the flows necessary for fire protection. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-3 in Exhibit CC-1-B for more detail.
Total			**3,854 LF**							**$471,483**	



2017

Project No: WM-3 •
PWSID: 0407099

Sun City District

Project Area:

Cherry Hills Dr
Hillcrest Dr

Project Description:

Replace existing main with 3,854 LF of 6" main on Cherry Hills Dr and Hillcrest Dr south of Alabama Ave.
The existing main was installed in 1959 and has broken numerous times in the past 5 years. The pipe material is asbestos cement, which has a high failure rate as it ages. The pipe is also too small for fire protection.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

75 37.5 0 75 150 225 300 Feet

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

EPCOR WATER

Created: 3/20/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2017 WM-3**	Project Location: Cherry Hills Dr/Hillcrest Dr	
Project Description: Replace existing main with 6" main in Cherry Hills Dr and Hillcrest Dr south of Alabama Ave.				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
3854	linear feet	99	Contractor material and labor to replace existing mains	$ 381,546
1	lump sum	24,000	Consultant engineering design	$ 24,000
325	hours	35	Company labor for field oversight and inspections	$ 11,375
260	hours	45	Company labor for project management	$ 11,700
Subtotal				$ 428,621
General Overhead Rate on Labor and Capital (10%)				$ 42,862
Total Estimated Cost				**$ 471,483**

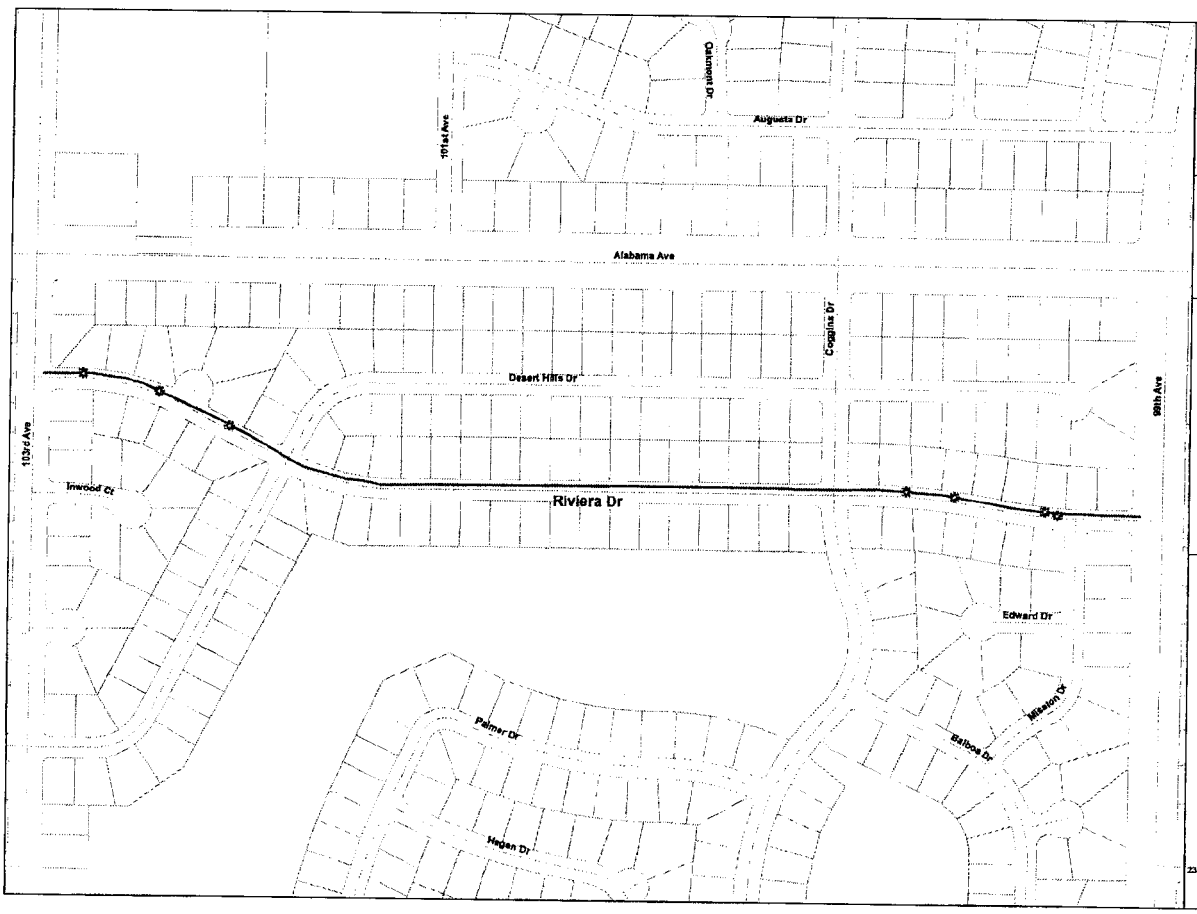
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-4

2018 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-4	331	Mains	2,633 LF	6"	PVC	$133	Riviera Dr	12/2018	n/a	$349,698	Replace existing main with 2,633 LF of 6"main in Riviera Dr between 103rd Ave and 99th Ave. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. The existing main is 4" in diameter which cannot support the flows necessary for fire protection. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-4 in Exhibit CC-1-B for more detail.
Total			**2,633 LF**							**$349,698**	



2018

Project No: WM-4 •
PWSID: 0407099

Sun City District

Project Area:

Riviera Dr

Project Description:

Replace existing main with 2,633 LF of 6" mainon Riviera Dr between 103rd Ave and 99th Ave.
The existing main was installed in 1959 and has broken numerous times in the past 5 years. The pipe material is asbestos cement, which has a high failure rate as it ages. The pipe is also too small for fire protection.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

80 40 0 80 160 240 320
Feet

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

EPCOR WATER

Created: 3/20/2014

EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2018 WM-4**	Project Location: Riviera Dr

Project Description:

Replace existing main with 6" main in Riviera Dr between 103rd Ave and 99th Ave.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2633	linear feet	104	Contractor material and labor to replace existing mains	$ 273,832
1	lump sum	21,000	Consultant engineering design	$ 21,000
325	hours	35	Company labor for field oversight and inspections	$ 11,375
260	hours	45	Company labor for project management	$ 11,700
Subtotal				$ 317,907
General Overhead Rate on Labor and Capital (10%)				$ 31,791
Total Estimated Cost				**$ 349,698**

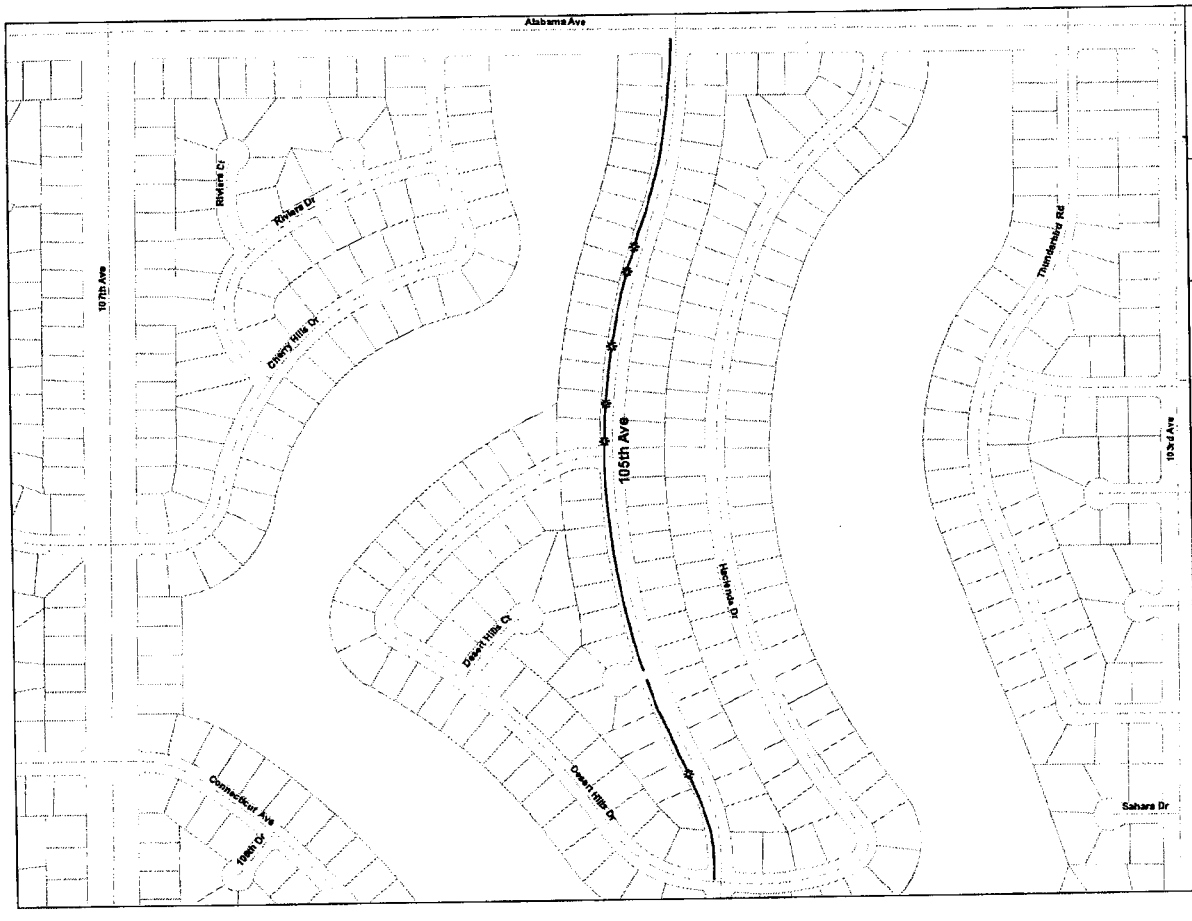
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 3-5

2019 Main Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	331 **T&D Mains** **333 Services** **334 *Meters***	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
WM-5	331	Mains	2,148 LF	6"	PVC	$144	105th Ave	12/2019	n/a	$308,391	Replace existing main with 2,148 LF of 6"main in 105th Ave between Alabama Ave and Desert Hills Dr. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-5 in Exhibit CC-1-B for more detail.
WM-6	331	Mains	1,676 LF	8"	PVC	$159	Oakmont Dr	12/2019	n/a	$266,771	Replace existing main with 1,676 LF of 8"main in Oakmont Dr between 107th Ave and 105th Ave. The main was installed in 1959 and has broken numerous times in the last 5 years. The pipe material is asbestos-cement, which is known to have a high failure rate as it ages and has not been used in water systems for decades. Replacing the mains will help reduce system water loss and improve customer pressure and flow. The main replacement is for existing customers and not related to new growth. See Section 3 narrative and Map No. WM-6 in Exhibit CC-1-B for more detail.
Total			3,824 LF							$575,162	



2019

Project No: WM-5 •
PWSID: 0407099

Sun City District

Project Area:

105th Avenue

Project Description:

Replace existing main with 2,148 LF of 6" main on 105th Ave between Alabama Ave and Desert Hills Dr. The existing main was installed in 1959 and has broken numerous times in the past 5 years. The pipe material is asbestos cement, which has a high failure rate as it ages.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

90 45 0 90 180 270 360 Feet

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

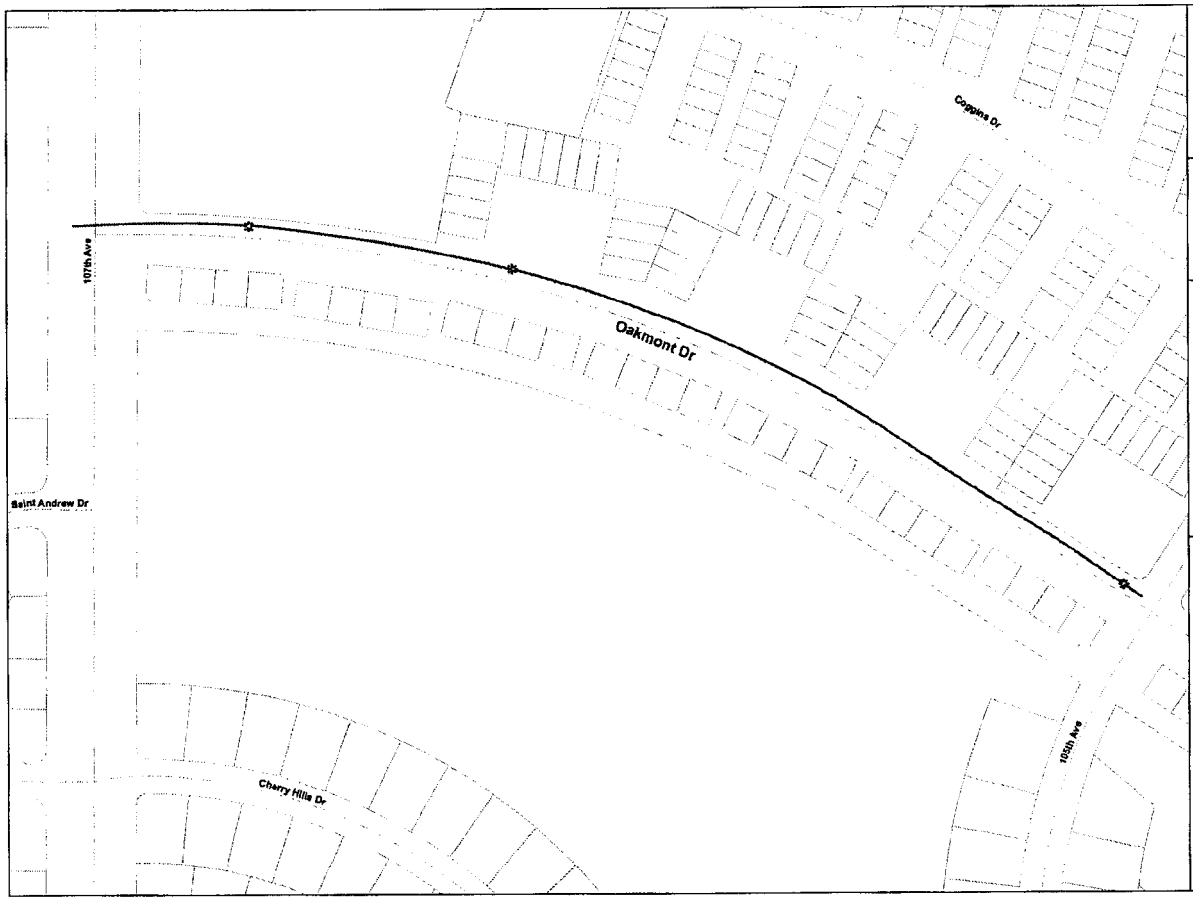
EPCOR WATER

Created: 3/20/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2019 WM-5**	Project Location: 105th Ave	
Project Description: Replace existing main with 6" main in 105th Ave between Alabama Ave and Desert Hills Dr.				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2148	linear feet	110	Contractor material and labor to replace existing mains	$ 236,280
1	lump sum	21,000	Consultant engineering design	$ 21,000
325	hours	35	Company labor for field oversight and inspections	$ 11,375
260	hours	45	Company labor for project management	$ 11,700
Subtotal				$ 280,355
General Overhead Rate on Labor and Capital (10%)				$ 28,036
Total Estimated Cost				**$ 308,391**



2019

Project No: WM-6 •
PWSID: 0407099

Sun City District

Project Area:

Oakmont Dr

Project Description:

Replace existing main with 1,676 LF of 8" mainon Oakmont Dr between 107th Ave and 105th Ave.
The existing main was installed in 1959 and has broken numerous times in the past 5 years. The pipe material is asbestos cement, which has a high failure rate as it ages.

Legend

- Recorded Main Break/Leak (2008-2013)
- Main to be Replaced

N

50 25 0 50 100 150 200 Feet

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

EPCOR WATER

Created: 3/20/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, P.E.	Sun City	**2019 WM-6**	Oakmont Dr

Project Description:

Replace existing main with 8" main in Oakmont Dr between 107th Ave and 105th Ave.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1676	linear feet	119	Contractor material and labor to replace existing mains	$ 199,444
1	lump sum	20,000	Consultant engineering design	$ 20,000
325	hours	35	Company labor for field oversight and inspections	$ 11,375
260	hours	45	Company labor for project management	$ 11,700
Subtotal				$ 242,519
General Overhead Rate on Labor and Capital (10%)				$ 24,252
Total Estimated Cost				**$ 266,771**

SECTION 4 - METERS

4.1 Overview

The Sun City system has approximately 23,000 residential and commercial customer accounts. Many meter routes in the system contain meters that are over 12 years old or will be within the next five years. In the past two years, EPCOR has replaced an estimated 2,553 meters per year, on average. In order to ensure meter reading accuracy throughout the system, EPCOR plans to continue replacing inaccurate meters at a comparable pace.

4.2 Best Management Practices

The Arizona Department of Water Resources' (ADWR) Modified Non-Per Capita Conservation Program (MNPCCP) is one of the regulatory programs for large municipal water providers in Active Management Areas. It is a performance-based program (Best Management Practice or BMP) that participating water providers use to implement water conservation measures that result in water use efficiency in their service areas. ADWR's BMP for meter replacement and testing requires 1-inch and smaller meters be tested at a minimum of every 10 years. The following BMP is currently accepted by the Arizona Corporation Commission:

Meter Repair and/or Replacement Tariff – BMP 4.2

PURPOSE

A program for the Company to systematically assess all in-service water meters (including Company production meters) in its water service area to identify under-registering meters for repair or replacement (Modified Non-Per Capita Conservation Program Best Management Practice Category 4: Physical System Evaluation and Improvement 4.2 Meter Repair and/or Replacement Program).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education

Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. On a systematic basis, the Company will inspect 100 percent of its 1-inch and smaller in-service water meters at least once every ten years for one of the following reasons (whichever occurs first):
    a. A meter reading complaint is filed with the Company by a customer or Arizona Corporation Commission Staff,
    b. A meter has registered 1,000,000 gallons of usage,
    c. A meter has been in service for ten years.

2. Meters larger than 1-inch shall be inspected for one of the following reasons:
    a. A meter reading complaint is filed with the Company by a customer or Arizona Corporation Commission Staff,
    b. A meter has been in service for five years.

3. The inspection will be accomplished by having a Company Technician physically inspect each meter and its fittings for leaks, registers which may have become loose or are not properly attached to the meter and could be under-registering or other broken parts which need repair. In addition, meters shall be randomly selected for flow testing to identify potentially under-registering meters.

4. The Company shall also replace or reprogram any water meters that do not register in gallons. Upon the effective date of this tariff, the Company shall install all replacement meters with new:
    1. 1-inch and smaller meters that register in 1 gallon increments,
    2. 1-1/2-inch through 4-inch meters that register in 10 gallon increments, and
    3. 6-inch and larger meters that register in 100 gallon increments.

5. The Company shall keep records of all inspected and replacement meters and make this information available to the Commission upon request.

4.3 Industry Standards

EPCOR contacted other water utilities around the country to find out what their standard for meter replacement has been. Most of these utilities believe that replacing meters every 10 to 15 years is appropriate. Different studies around the country determined that a 10 to 20 year range is acceptable; however, there is no exact age that determines the time when a meter should be replaced. A meter's accuracy is dependent on many factors including water quality, water temperature, the flow rate passing through the meter, and the quantity of water that passes through the meter.

4.4 Meter Replacements

EPCOR plans to continue with the annual meter replacement program at a slightly slower pace than that of the last two years. The program will target meter routes with the oldest meters first, as well as meters in critical areas where there have been instances of zero read meters. Prior to replacing the meters in a specific route, 10% of the meters will be tested for accuracy. If these meters do not meet the accuracy requirements described in our meter testing program, all of the meters in the route will be replaced; otherwise another meter route will be considered and tested for replacement need. A copy of the Company's meter testing and replacement guidelines is included in the following tab, **Meter Testing**.

Note that the timing of meter replacements will not necessarily coincide with the timing of service line replacements. Meters located in service line replacement areas may not be ready for replacement at the time of the service line replacements, and vice versa. Meters are being replaced according to meter route, and service lines are being replaced by street. However, when service lines are replaced, the meters on that street will be tested according to EPCOR's meter testing program, and if they are found to meet the requirements for replacement, they will be replaced at the time of the service line replacements; these meters will then *not* be replaced again under the meter replacement schedule.

EPCOR plans to replace an average of 2,320 meters per year over the next five years and continue at this pace until the all meters in the system are replaced. Meter replacement projects for the next five years are described in the following tabs labeled **2015, 2016, 2017, 2018, and 2019**. SIB Plant Table I, 4-1 through SIB Plant Table I, 4-5 provide a detailed description of each meter replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 4-1) through 2019 (Table I, 4-5). Each project addresses

a set of meter replacements that will occur within a defined meter route. Each project can also be tied to a map showing the proposed meter replacements. A detailed cost estimate for each project is also provided.

EPCOR

FIELD OPERATIONS STANDARD OPERATING PRACTICES	Effective Date:	10-8-07
	Revised Date:	9-10-12

SOP NAME: **SMALL METER TESTING**	SOP #: **CFO-312**

TYPE: Preventative Maintenance	**DIVISION:** Field Operations	**Activity Definitions:**

OBJECTIVE

The objective of document is to provide consistent procedures for conducting preventative maintenance by testing water meters for accurate measurement of water consumption.

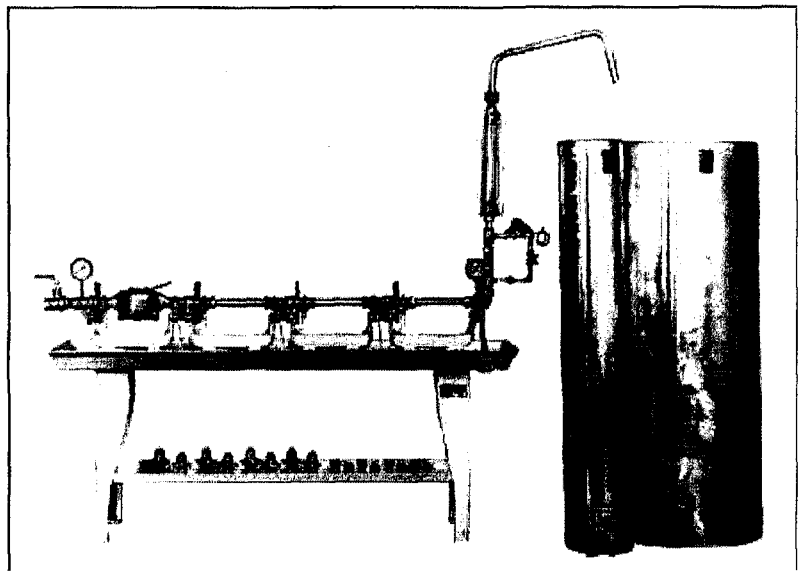
GOAL

The goal is for all personnel to consistently perform water meter testing using the same steps.

SCOPE

The practices and procedures in this program apply to all Field Operations employees, and contractors working on behalf of EPCOR Water, performing water meter testing.

ILLUSTRATION



PRECAUTIONS

1. Water lines are under constant pressure.
2. Pinch hazards.
3. Ford Meter Test Bench (pictured above)

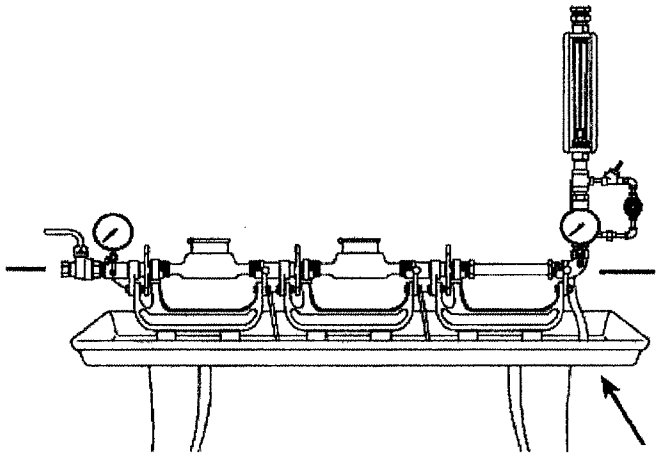
PROCEDURE

The Ford Indianapolis Test Bench will be used to test water meters in sizes 5/8" through 3/4" short; and the Ford Akron Test Bench will be used to test meters in sizes 3/4" long through 3". Always test meters of the same size at the same time. Both test benches have a water supply valve to supply water pressure to operate the hydraulic clamping cylinders. This valve should remain open at all times.

We will first go through the procedures for the Indianapolis Test Bench.

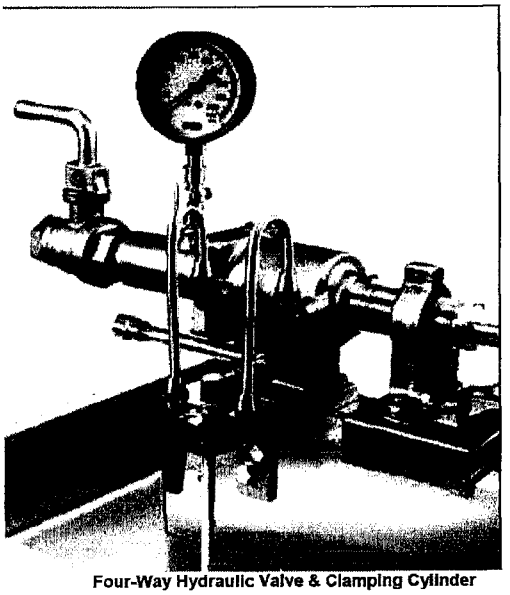
1. Check to see that all gaskets are in-place for each meter saddle.

2. If all meter saddles (9) will not be used, install a ⅝" or ¾" idler bar in each unused meter saddle. (See example below)



3. Make sure meters are installed in the direction of water flow through the test bench, (right to left).

4. Clamp the meters into position by turning the lever handle on the four hydraulic valve to the straight up position. Turning the valve ¼ turn counter-clockwise will release the meters from the clamped position. (See the picture below)



Four-Way Hydraulic Valve & Clamping Cylinder

5. Once all meters and/or idler bars are securely clamped in-place, open the blow-off valve and close the outlet valve going to the Testerate Indicator (rate of flow gauge). Slowly open the inlet valve to purge all the air from the meters. Once the air is purged, close the blow-off valve and slowly open the outlet valve to slowly purge all air from the entire test bench system. Once the purging is complete, close the outlet valve. Verify that there are no leaks from any gaskets, valves, or fittings before proceeding with the testing. Repair all leaks as needed.

6. With the outlet valve closed and the inlet valve open, adjust the meters to an easily recordable start point (dial hand on a whole number or zero) by using the bleeder valves. By opening the bleeder valve for each meter, this allows water to flow through the meter to position the dial hand to a start point. Adjust the outlet/last meter first (far left position), then move to the next (upstream) meter with each successive adjustment. You must use the blow-off valve to adjust the meter in the last position. Eventually all meters will be adjusted to a start point and ready for testing. Document the start point and the meter reading for each meter prior to testing.

7. Make sure the appropriate calibrated tank is empty and the tank drain valve is closed. The 10-gallon tank is used for low or intermediate flow tests and the 100 gallon tank is used for high flow tests. Rotate the calibration tank fill tube over the appropriate tank. Now you are ready to begin testing the meters.

8. The following chart indicates the American Water Works Association (AWWA) test requirements for new, rebuilt and repaired cold water meters:

Size In.	Maximum Rate (All Meters) Rate† of Flow gpm	Test Quantity†† Gal.	Test Quantity†† Cu. Ft.	Accuracy Limits Percent	Intermediate Rate (All Meters) Rate of Flow gpm	Test Quantity†† Gal.	Test Quantity†† Cu. Ft.	Accuracy Limits Percent	Minimum Rate (New and Rebuilt) Rate of Flow gpm	Test Quantity†† Gal.	Test Quantity†† Cu. Ft.	Accuracy Limits Percent New & Rebuilt Meters	Accuracy Limits Percent Repaired Meters
DISPLACEMENT METERS (AWWA C700 AND C710)													
5/8	15	100	10	98.5-101.5	2	10	1	98.5-101.5	1/4	10	1	95-101	90
5/8x3/4	15	100	10	98.5-101.5	2	10	1	98.5-101.5	1/4	10	1	95-101	90
3/4	25	100	10	98.5-101.5	3	10	1	98.5-101.5	1/2	10	1	95-101	90
1	40	100	10	98.5-101.5	4	10	1	98.5-101.5	3/4	10	1	95-101	90
1-1/2	50	100	10	98.5-101.5	8	100	10	98.5-101.5	1-1/2	100	10	95-101	90
2	100	100	10	98.5-101.5	15	100	10	98.5-101.5	2	100	10	95-101	90
3	150	500	50	98.5-101.5	20	100	10	98.5-101.5	4	100	10	95-101	90
4	200	500	50	98.5-101.5	40	100	10	98.5-101.5	7	100	10	95-101	90
6	500	1,000	100	98.5-101.5	60	100	10	98.5-101.5	12	100	10	95-101	90

We will start with the Low Flow Test. Switch the flow mode to Low on the electric flow control system panel. Turn the power switch to the on position. Quickly adjust the flow rate to ¼ gpm (5/8" meter) on the Testerate Indicator Gauge. The rate-of-flow is measured even with the flat top of the rotor body. Considering this is not a time measured test, it's not too critical for the flow rate to be precisely ¼ gpm throughout the length of the test. However, make every effort to keep the flow rate at ¼ gpm. The flow rate may fluctuate during the test, if the system pressure changes. *If the electric flow control system is not available or required, perform the test manually by slowly opening the outlet valve and quickly adjusting the flow rate to 1/4 gpm.*

9. Once the water level reaches the specified quantity level in the calibrated tank (see chart above), the flow valve should close automatically. If not, manually close the outlet valve. Record the meter reading and calculate the meter accuracy using the following equation:

   Final Meter Reading - Initial Meter Reading = Measured Flow Registered

   5/8" meter minimum flow rate 10 gallon test
   Example #1 0654090.9 - 0654082.8 = 8.1 = Meter running slow
   Example #2 1054230.5 - 1054220.4 = 10.1 = Meter running fast

   In Example #1, this meter test result is outside our tariff of >3% (9.7 gallons) and would need to be replaced.
   In Example #2, this meter test result is within our tariff of >3% (10.3 gallons) and would not require replacement. This meter should be reinstalled at its original service location. Repeat this calculation for each meter tested. A meter running slow, more than 3% accuracy, would require replacement. A meter running fast, more than 3% accuracy, would require replacement and a credit to the customer.

   All customer meters must meet the Arizona Corporation Commission (ACC) accuracy of 3%.

10. Repeat steps 6 – 9 to run the Intermediate and/or Maximum Rate Flow Test. Reference the appropriate column in the chart above for the test rate-of-flow gpm.

11. Once all tests are complete, remove all meters tested, and attach Meter Test Result Tag. Record all meter test results in the Meter Test Data Base.

We will now go through the procedures for the Akron Test Bench.

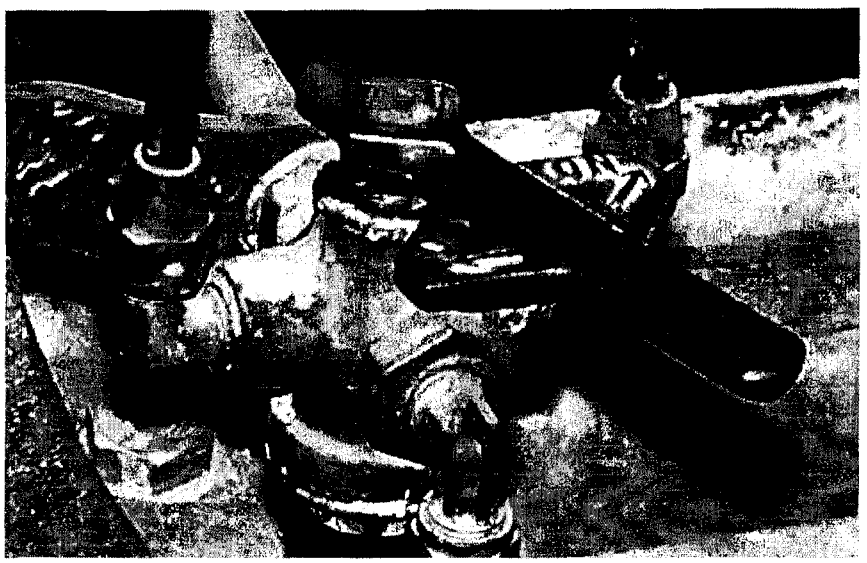
1. Check to see that all gaskets are in-place for each meter saddle.

2. If all meter saddles (3) will not be used, install the 2" idler bar in each unused meter saddle. Install the correct meter adapter (located on back row of test bench) for each size meter as follows:

¾" Long	HT-16&HT-12A
1"	HT-14
1½"	HT-15
2"	Not Required
3"	Not Required

3. Make sure meters are installed in the direction of water flow through the test bench, (left to right).

4. Clamp the meters into position by turning the lever handle on the four hydraulic valve to the right (On). Turning the valve to the left (Off) will release the meters from the clamped position. The center position is a neutral position. (See the picture below)



5. Once all meters and/or idler bars are securely clamped in-place, open the blow-off valve and close the outlet valve going to the Testerate Indicator (rate of flow gauge). Slowly open the inlet valve to purge all the air from the meters. Once the air is purged, close the blow-off valve and slowly open the outlet valve to slowly purge all air from the entire test bench system. Once the purging is complete, close the outlet valve. At this point, determine the maximum rate of flow expected for your meter test. All rate of flows less than 36 gpm should be performed with the Testerate By-pass Valve in the close position. All rates of flows over 36 gpm up to 170 gpm should be performed with the Testerate By-pass Valve in the close position and are read from the auxiliary scale mounted along side the tube. The rate of flow is measured even with the flat top of the rotor body. Verify that there are no leaks from any gaskets, valves, or fittings before proceeding with the testing. Repair all leaks as needed.

6. With the outlet valve closed and the inlet valve open, adjust the meters to an easily recordable start point (dial hand on a whole number or zero) by using the bleeder valves. By opening the bleeder valve for each meter, this allows water to flow through the meter to position the dial hand to a start point. Adjust the outlet/last meter first (far left position), then move to the next (upstream) meter with each successive adjustment. You must use the blow-off valve to adjust the meter in the last position. Eventually all meters will be adjusted to a start point and ready for testing. Document the start point and the meter reading for each meter prior to testing.

7. Make sure the appropriate calibrated tank is empty and the tank drain valve is closed. The 10-gallon tank is used for low or intermediate flow tests and the 100 gallon tank is used for high flow tests. Rotate the calibration tank fill tube over the appropriate tank. Now you are ready to begin testing the meters.

8. We will start with the Low Flow Test. Slowly open the outlet valve and quickly adjust the flow rate to ¾ gpm on the Testerate Indicator Gauge. The rate-of-flow is measured even with the flat top of the rotor body. Considering this is not a time measured test, it's not too critical for the flow rate to be precisely ¾ gpm throughout the length of the test. However, make every effort to keep the flow rate at ¾ gpm. The flow rate may fluctuate during the test, if the system pressure changes.

All 3" hydrant meters will be tested at the following flow rates and quantities:

Intermediate	20 gpm	100 gallons
Minimum	8 gpm	100 gallons

9. Once the water level reaches the specified quantity level in the calibrated tank (see chart above), the flow valve should close automatically. If not, manually close the outlet valve. Record the meter reading and calculate the meter accuracy using the following equation:

Final Meter Reading - Initial Meter Reading = Measured Flow Registered

3" meter maximum flow rate, 100 gallon test
Example #1 01654178 - 01654082 = 96 = Meter running slow
Example #2 01054322 – 01054220 = 102 = Meter running fast

In Example #1, this meter test result is outside our tariff of >3% (96 gallons) and would need to be replaced.
In Example #2, this meter test result is within our tariff of >3% (102 gallons) and would not require replacement. This meter should be reinstalled at its original service location. Repeat this calculation for each meter tested. A meter running slow, more than 3% accuracy, would require replacement. A meter running fast, more than 3% accuracy, would require replacement and a credit to the customer.

All customer meters must meet the Arizona Corporation Commission (ACC) accuracy of 3%.

10. Repeat steps 6 – 9 to run the Intermediate and/or Maximum Rate Flow Test. Reference the appropriate column in the chart above for the test rate-of-flow gpm.

11. Once all tests are complete, remove all meters tested, and attach Meter Test Result Tag. Record all meter test results in the Meter Test Data Base.

MEL HUNTSPON **September 10, 2012**
Manager, Field Operations

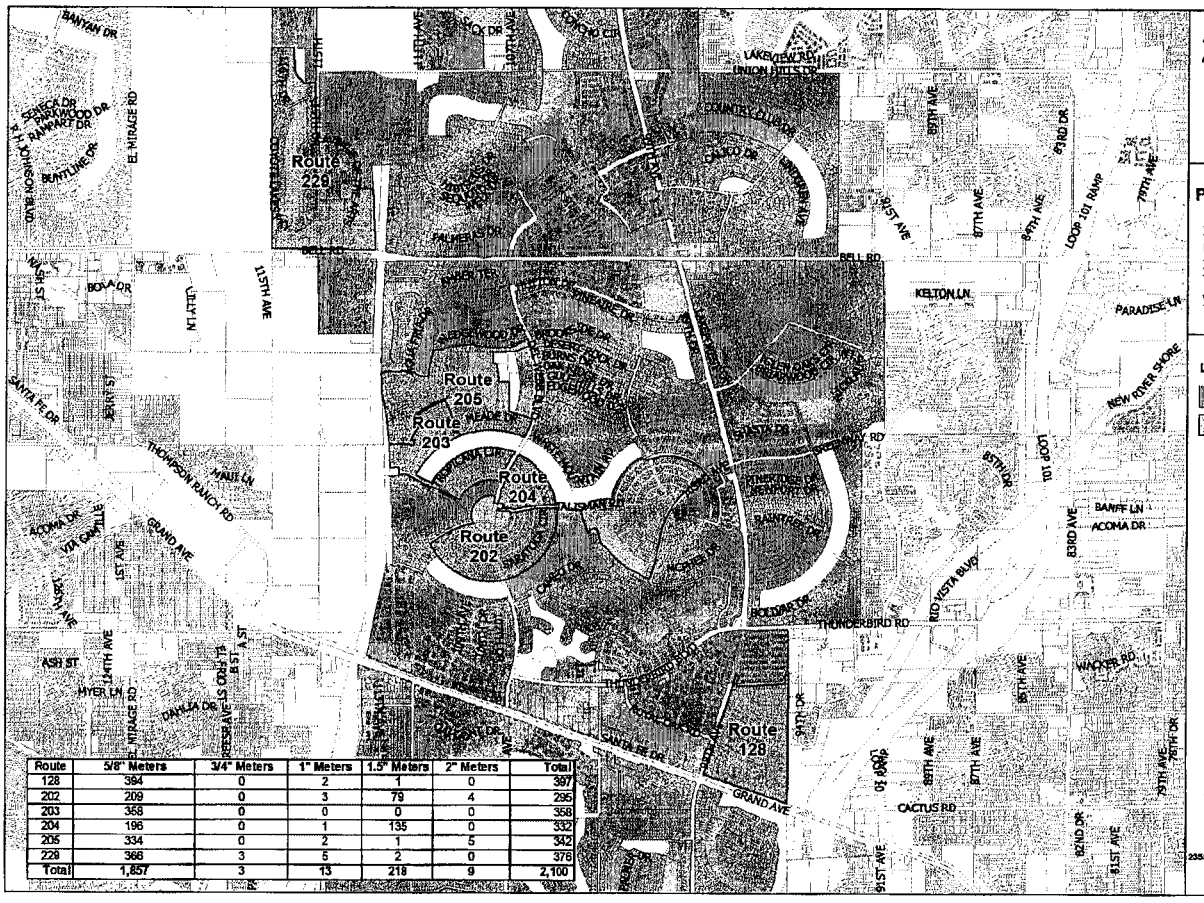
Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-1

2015 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-1	334	meters	2,100	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter Routes 128, 202, 203, 204, 205, and 229 (see map M-1 for detail)	12/2015	n/a	$409,508	Replace 1,857 - 5/8", 3 - 3/4", 13 – 1", 218 – 1.5", and 9 – 2" (2,100 total) meters in SC district Meter Routes 128, 202, 203, 204, 205, and 229. The existing meters in these routes will be at least 16 years old when replaced. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-1 in Exhibit CC-1-B for more detail.
Total			**2,100**							**$409,508**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	Total
128	384	0	2	1	0	387
202	209	0	3	79	4	295
203	358	0	0	0	0	358
204	196	0	1	135	0	332
205	334	0	2	1	5	342
229	366	3	5	2	0	376
Total	1,857	3	13	218	9	2,100

2015

Project No: M-1
PWSID: 0407099

Sun City Water

Project Description:

2,100 Meters total to be replaced in Routes 128, 202, 203, 204, 205 and 229. These meters will be at least 16 years old when replaced.

Legend

- Other Routes
- Target Routes

N

1,500 750 0 1,500 3,000 4,500 Feet

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

EPCOR WATER

Created: 3/20/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Number: M-1	Project Location: Meter Routes 128, 202, 203, 204, 205, and 229

Project Description:

Replace 1,857 - 5/8", 3 - 3/4", 13 – 1", 218 – 1.5", and 9 – 2" (2,100 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
1857	5/8" Meter	139	New Meter	$ 257,714
3	3/4" Meter	159	New Meter	$ 476
13	1" Meter	194	New Meter	$ 2,521
218	1.5" Meter	292	New Meter	$ 63,621
9	2" Meter	350	New Meter	$ 3,149
1244	hours	28	Labor to install new 5/8" meters*	$ 34,837
2	hours	28	Labor to install new 3/4" meters*	$ 56
9	hours	28	Labor to install new 1" meters*	$ 244
327	hours	28	Labor to install new 1.5" meters*	$ 9,156
18	hours	28	Labor to install new 2" meters*	$ 504
Subtotal				$ 372,280
General Overhead Rate on Labor and Capital (10%)				$ 37,228
Total Estimated Cost				**$ 409,508**

*Company labor includes the salary for two employees at a rate of $28/hour for 20 minutes each for 3/4" and 1" meters, 45 minutes each for 1 1/2" meters, 1 hour each for 2" meters, and 2 hours each for meters larger than 2".

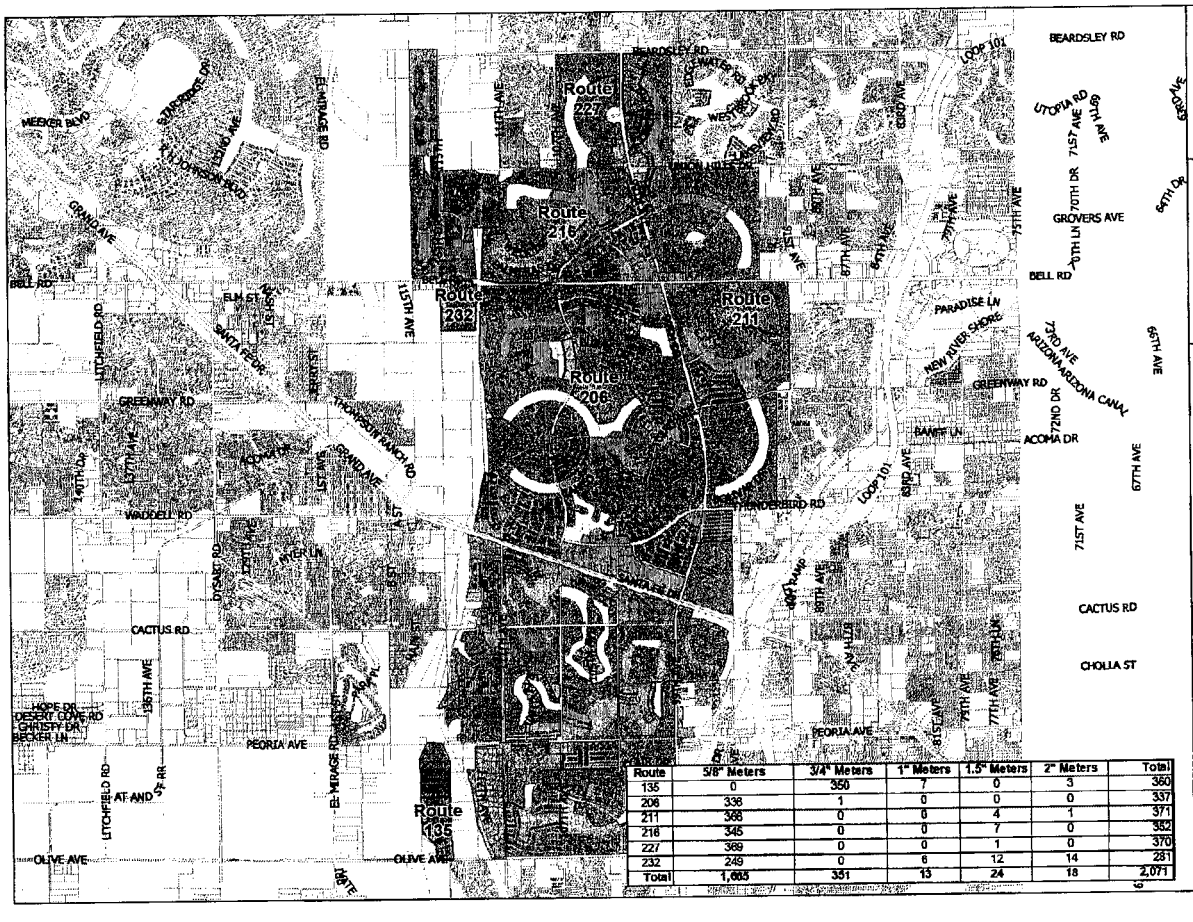
Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-2

2016 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-2	334	meters	2,071	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter Routes 135, 206, 211, 216, 227, and 232 (see map M-2 for detail)	12/2016	n/a	$376,982	Replace 1,665 - 5/8", 351 – 3/4", 13 - 1", 24 – 1.5", and 18 – 2" (2,071 total) in SC district meter routes 135, 206, 211, 216, 227, and 232. The existing meters in these routes will be over 12 years old at replacement; meters in routes 227 and 232 will be 17 and 16 years old, respectively. They are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-2 in Exhibit CC-1-B for more detail.
Total			**2,071**							**$376,982**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	Total
135	0	350	7	0	3	360
206	336	1	0	0	0	337
211	368	0	0	4	1	373
216	345	0	0	7	0	352
227	369	0	0	1	0	370
232	249	0	6	12	14	281
Total	1,665	351	13	24	18	2,071

2016

Project No: M-2
PWSID: 0407099

Sun City Water

Project Description:

2,071 Meters total to be replaced in Routes 135, 206, 211, 216, 227 and 232. The meters in Routes 227 and 232 will be 17 and 16 years old, respectively. The other meters will be at least 12 years old when replaced.

Legend

- Other Routes
- Target Routes

N

2,500 0 2,500 5,000 7,500 Feet

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

EPCOR WATER

Created: 3/24/2016

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Number: M-2	Project Location: Meter Routes 135, 206, 211, 216, 227, and 232

Project Description:

Replace 1,665 - 5/8", 351 – 3/4", 13 - 1", 24 – 1.5", and 18 – 2" (2,071 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
1665	5/8" Meter	139	New Meter	$ 231,069
351	3/4" Meter	159	New Meter	$ 55,739
13	1" Meter	194	New Meter	$ 2,521
24	1.5" Meter	292	New Meter	$ 7,004
18	2" Meter	350	New Meter	$ 6,298
1116	hours	28	Labor to install new 5/8" meters	$ 31,235
235	hours	28	Labor to install new 3/4" meters	$ 6,585
9	hours	28	Labor to install new 1" meters	$ 244
36	hours	28	Labor to install new 1.5" meters	$ 1,008
36	hours	28	Labor to install new 2" meters	$ 1,008
Subtotal				$ 342,711
General Overhead Rate on Labor and Capital (10%)				$ 34,271
Total Estimated Cost				**$ 376,982**

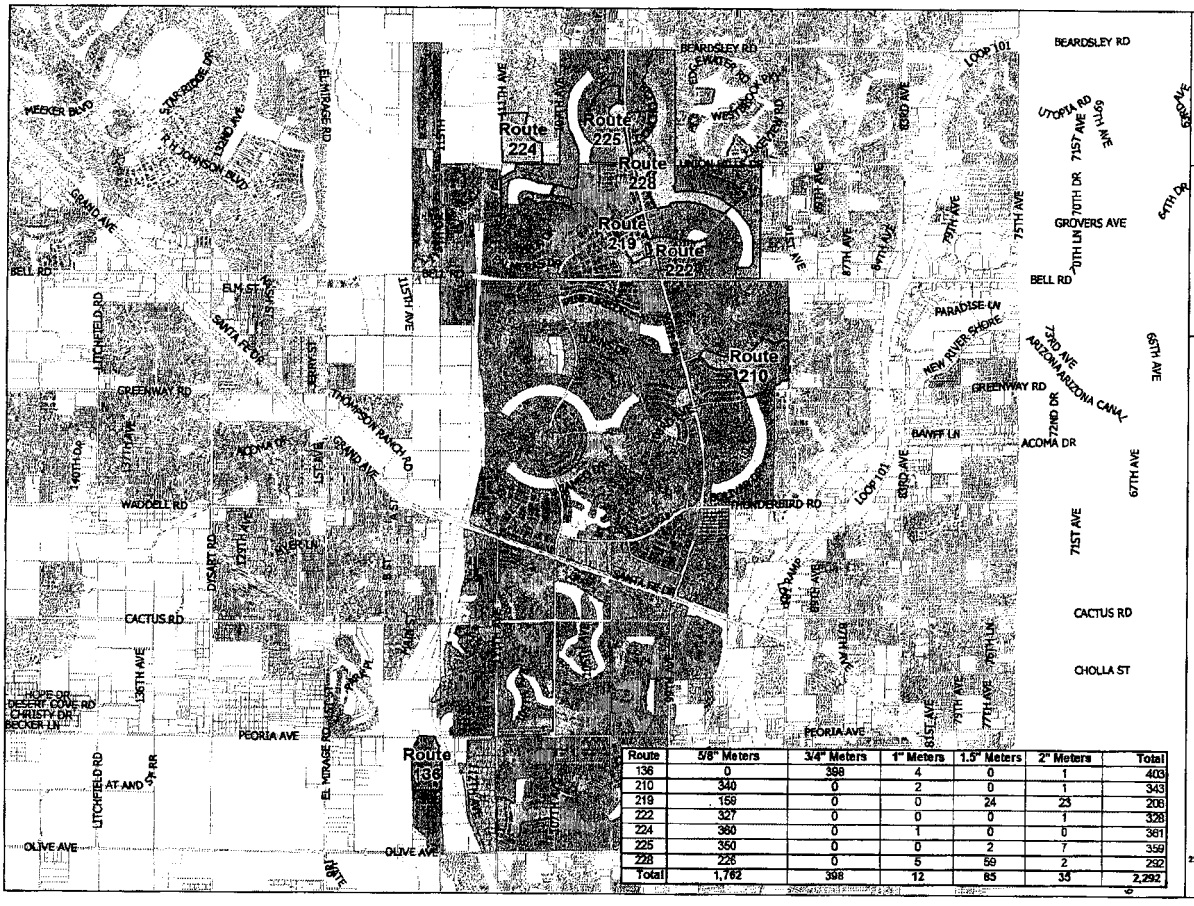
Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-3

2017 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-3	334	meters	2,292	5/8"-to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter routes 136, 210, 219, 222, 224, 225, and 228 (see map M-3 for detail)	12/2017	n/a	$432,728	Replace 1,762 - 5/8", 398 - 3/4", 12 – 1", 85 – 1.5", and 35 – 2" (2,292 total) meters in SC district meter routes 136, 210, 219, 222, 224, 225, and 228. The existing meters in these routes will be between 12 and 13 years when replaced. The meters are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-3 in Exhibit CC-1-B for more detail.
Total			**2,292**							**$432,728**	


Route 224
Route 225
Route 228
Route 219
Route 222
Route 210
Route 136
BEARDSLEY RD
BELL RD
GREENWAY RD
THUNDERBIRD RD
CACTUS RD
PEORIA AVE
OLIVE AVE
GRAND AVE
LOOP 101
ARIZONA CANAL
CHOLLA ST
GROVERS AVE
ACOMA DR
PARADISE LN
BAYFF LN
WESTBROOK PKWY
WEEKER BLVD
ELMRIDGE RD
LITCHFIELD RD
DISART RD
EL MIRAGE RD
UTOPIA RD
ELM ST
WADDELL RD
THOMPSON RANCH RD
DESERT COVE RD
CHRISTY DR
BECKER LN
AT AND SF RR
R H JOHNSON BLVD
STARRIDGE DR
SANTA FE DR
NEW RIVER SHORE
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EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Number: M-3	Project Location: Meter Routes 136, 210, 219, 222, 224, 225, and 228

Project Description:

Replace 1,762 - 5/8",398 - 3/4", 12 – 1", 85 – 1.5", and 35 – 2" (2,292 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
1762	5/8" Meter	139	New Meter	$ 244,530
398	3/4" Meter	159	New Meter	$ 63,202
12	1" Meter	194	New Meter	$ 2,328
85	1.5" Meter	292	New Meter	$ 24,806
35	2" Meter	350	New Meter	$ 12,245
1181	hours	28	Labor to install new 5/8" meters	$ 33,055
267	hours	28	Labor to install new 3/4" meters	$ 7,466
8	hours	28	Labor to install new 1" meters	$ 225
128	hours	28	Labor to install new 1.5" meters	$ 3,570
70	hours	28	Labor to install new 2" meters	$ 1,960
Subtotal				$ 393,389
General Overhead Rate on Labor and Capital (10%)				$ 39,339
Total Estimated Cost				**$ 432,728**

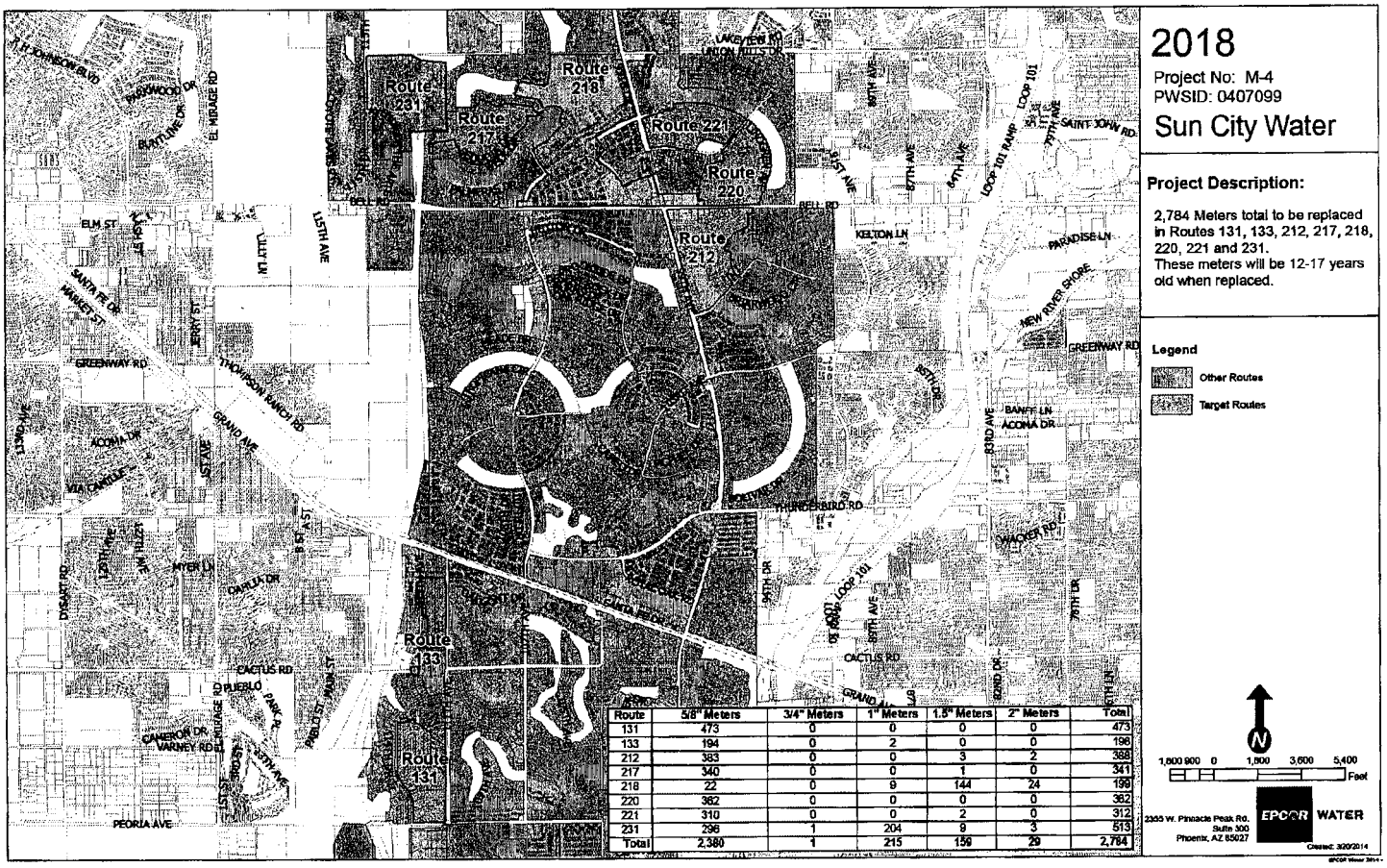
Sun City water district – PWS ID No. 07-099

SIB PLANT *TABLE I, 4-4*

2018 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-4	334	meters	2,784	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter routes 131, 133, 212, 217, 218, 220, 221, and 231 (see map M-4 for detail)	12/2018	n/a	$534,279	Replace 2,380 - 5/8", 1 - 3/4", 215 – 1", 159 – 1.5", and 29 – 2" (2,784 total) meters in SC district meter routes 131, 133, 212, 217, 218, 220, 221, and 231. The existing meters in these routes will be between 12 and 17 years old when replaced. The meters are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-4 in *Exhibit CC-1-B* for more detail.
Total			**2,784**							**$534,279**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	Total
131	473	0	0	0	0	473
133	194	0	2	0	0	196
212	383	0	0	3	2	388
217	340	0	0	1	0	341
218	22	0	9	144	24	199
220	362	0	0	0	0	362
221	310	0	0	2	0	312
231	296	1	204	9	3	513
Total	2,380	1	215	159	29	2,784

2018

Project No: M-4
PWSID: 0407099

Sun City Water

Project Description:

2,784 Meters total to be replaced in Routes 131, 133, 212, 217, 218, 220, 221 and 231.
These meters will be 12-17 years old when replaced.

Legend

Other Routes

Target Routes

N

1,800 900 0 1,800 3,600 5,400 Feet

EPCOR WATER
3355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

Created: 3/20/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Number: M-4	Project Location: Meter Routes 131, 133, 212, 217, 218, 220, 221, and 231

Project Description:

Replace 2,380 - 5/8", 1 - 3/4", 215 – 1", 159 – 1.5", and 29 – 2" (2,784 total) meters.

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
2380	5/8" Meter	139	New Meter	$ 330,296
1	3/4" Meter	159	New Meter	$ 159
215	1" Meter	194	New Meter	$ 41,701
159	1.5" Meter	292	New Meter	$ 46,403
29	2" Meter	350	New Meter	$ 10,146
1595	hours	28	Labor to install new 5/8" meters	$ 44,649
1	hours	28	Labor to install new 3/4" meters	$ 19
144	hours	28	Labor to install new 1" meters	$ 4,033
239	hours	28	Labor to install new 1.5" meters	$ 6,678
58	hours	28	Labor to install new 2" meters	$ 1,624
Subtotal				$ 485,708
General Overhead Rate on Labor and Capital (10%)				$ 48,571
Total Estimated Cost				**$ 534,279**

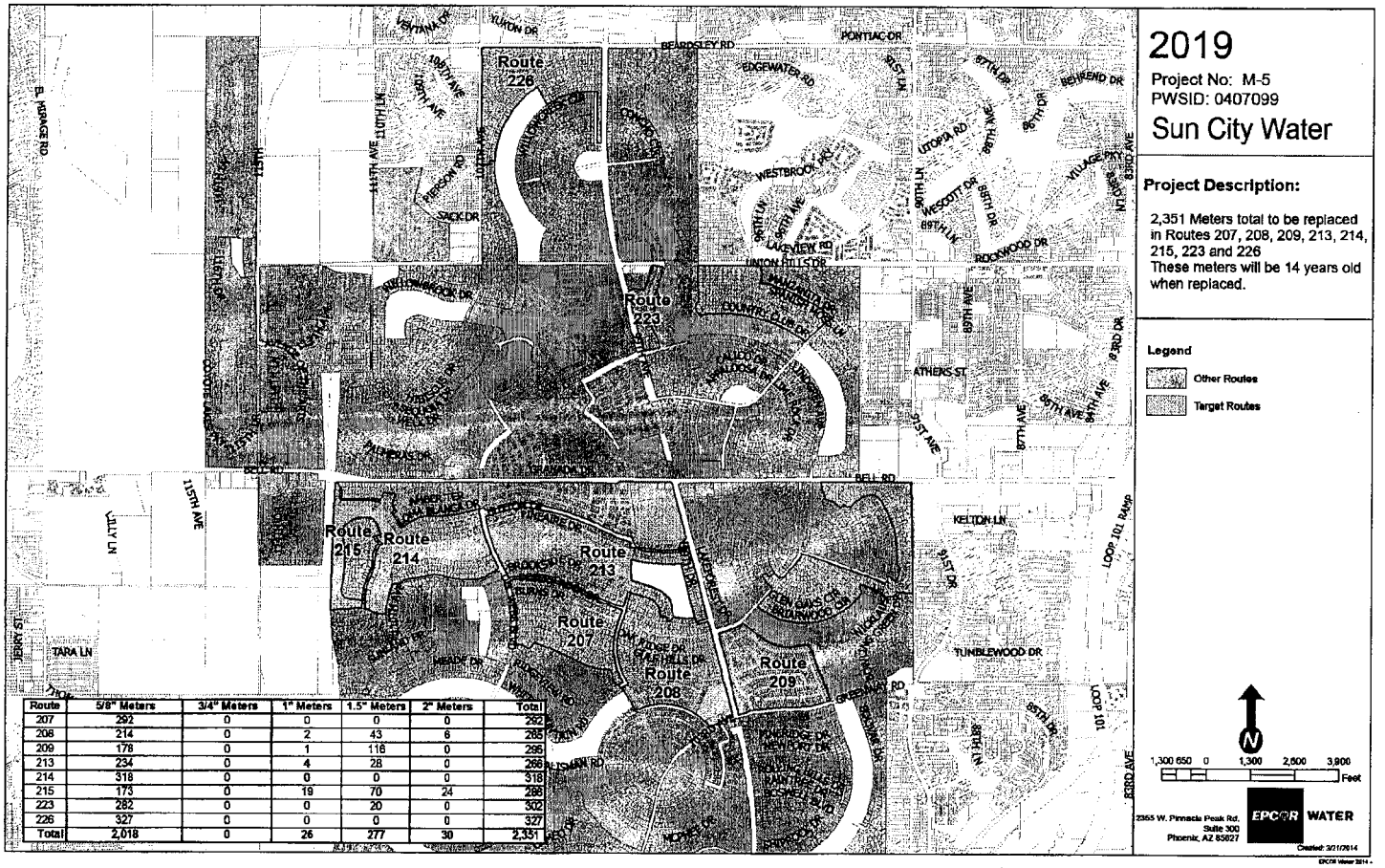
Sun City water district – PWS ID No. 07-099

SIB PLANT TABLE I, 4-5

2019 Meter Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (new plant) (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
M-5	334	meters	2,351	5/8" to 2"	Copper/ Plastic	5/8"-$173 ¾"-$195 1"-$234 1½"-$367 2"-$447	Meter routes 207, 208, 209, 213, 214, 215, 223, and 226 (see map M-5 for detail)	12/2019	n/a	$470,906	Replace 2,018 - 5/8", 26 – 1", 277 – 1.5", and 30 – 2" (2,351 total) meters in SC district meter routes 207, 208, 209, 213, 214, 215, 223, and 226. The existing meters in these routes will be 14 years old when replaced. The meters are experiencing a rapid decline in meter accuracy. Prior to replacement, a 10% sample of the route meters will be tested for accuracy. The new meters will help keep system water loss below 10%. The meter replacements are for existing customers and not related to new growth. See Section 4 narrative and Map No. M-5 in Exhibit CC-1-B for more detail.
Total			**2,351**							**$470,906**	



Route	5/8" Meters	3/4" Meters	1" Meters	1.5" Meters	2" Meters	Total
207	292	0	0	0	0	292
208	214	0	2	43	6	265
209	178	0	1	116	0	296
213	234	0	4	28	0	266
214	318	0	0	0	0	318
215	173	0	19	70	24	286
223	282	0	0	20	0	302
226	327	0	0	0	0	327
Total	2,018	0	26	277	30	2,351

2019

Project No: M-5
PWSID: 0407099

Sun City Water

Project Description:

2,351 Meters total to be replaced in Routes 207, 208, 209, 213, 214, 215, 223 and 226
These meters will be 14 years old when replaced.

Legend

- Other Routes
- Target Routes

N

1,300 650 0 1,300 2,600 3,900 Feet

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

EPCOR WATER

Created: 3/21/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Number: M-5	Project Location: Meter Routes 207, 208, 209, 213, 214, 215, 223, and 226	
Project Description: Replace 2,018 - 5/8", 26 – 1", 277 – 1.5", and 30 – 2" (2,351 total) meters.				

Materials & Labor

Quantity	Unit	$/Unit	Description	Estimated Item Cost
2018	5/8" Meter	139	New Meter	$ 280,058
0	3/4" Meter	159	New Meter	$ -
26	1" Meter	194	New Meter	$ 5,043
277	1.5" Meter	292	New Meter	$ 80,840
30	2" Meter	350	New Meter	$ 10,496
1352	hours	28	Labor to install new 5/8" meters	$ 37,858
0	hours	28	Labor to install new 3/4" meters	$ -
17	hours	28	Labor to install new 1" meters	$ 488
416	hours	28	Labor to install new 1.5" meters	$ 11,634
60	hours	28	Labor to install new 2" meters	$ 1,680
Subtotal				$ 428,096
General Overhead Rate on Labor and Capital (10%)				$ 42,810
Total Estimated Cost				**$ 470,906**

SECTION 2 – VALVES

2.1 Overview

The Sun City water system contains about 3,870 distribution system valves. Over 42% of the valves in the system are over 40 years old, and as valves age, they are prone to deterioration and the parts begin to fail. Common failures include stripped, broken, or bent stems, leaking O-rings or packing, corrosion or cracking of the valve body, corrosion of the connecting bolts, and wear on the valve disk and seat.

2.2 Nessie Curve

As described in Section 1, a "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it, or when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

Exhibit 2-1 is the Nessie curve which was developed specifically for the valves in EPCOR's Sun City district. Exhibit 2-2 shows the same data in tabular format. The curve shows that most of the system valves will need to be replaced by 2030. It also shows that in the next six years, from 2015 through 2020, approximately $7.2 million should be spent on valve replacements, or about $1.2 million per year. This equates to about 241 valve replacements per year.

Exhibit 2-1 – Valve Nessie Curve

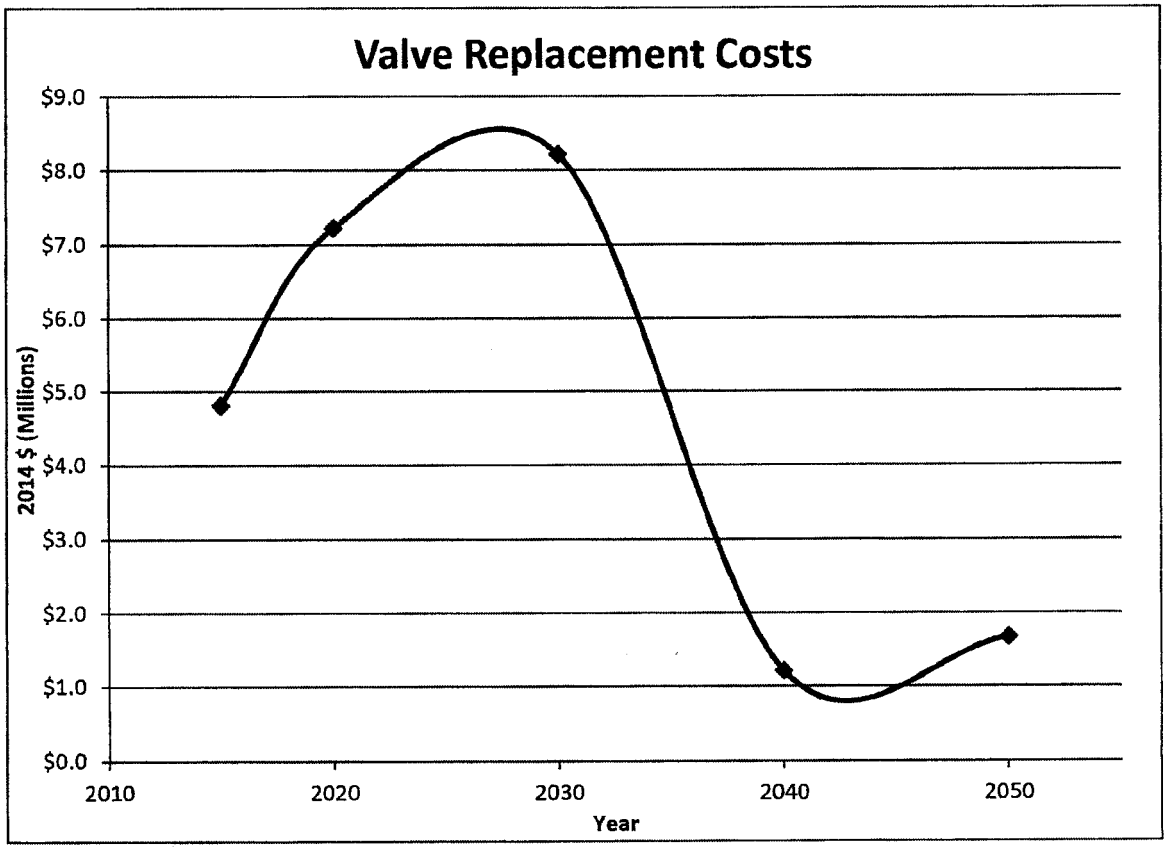


Exhibit 2-6 - Nessie Curve Table

Time Frame	Number of Valves to be Replaced	Cost to Replace Valves	Number of Valve Replacements per Year	Cost per Year
today-2020	1445	$ 7,216,696	241	$ 1,202,783
2020-2030	1644	$ 8,212,399	164	$ 821,240
2030-2040	242	$ 1,208,278	24	$ 120,828
2040-2050	335	$ 1,671,174	33	$ 167,117

2.3 Valve Replacements

Until the last few years, the valves were tested and replaced if found broken during main break repairs or during fire hydrant maintenance. A valve maintenance and exercise program has been followed during recent years, which has greatly increased the reliability of the valves in the system. Historical valve replacements from 2008 through 2013 are shown in the following tab, **Historical Replacement Data**. During this time frame, 37 valves were replaced in the District. In the last year, 16 valves out of 772 tested in the maintenance program (approximately 2%) were found to be inoperable or broken. EPCOR plans to continue to systematically test and replace valves according to the valve maintenance schedule. Although some replacements will still be needed, it is not expected that nearly as many will need to be replaced as is predicted by the Nessie Curve. Based on the data from the maintenance program during 2013, it is anticipated that approximately 16 valves will need replacement per year. The investment over five years for valve replacements is estimated at $400,000.

Valve replacement projects are described in the following tabs labeled **2015, 2016, 2017, 2018,** and **2019.** SIB Plant Table I, 2-1 through SIB Plant Table I, 2-5 provide a detailed description of each valve replacement project. The tables are broken down by year, so there is a separate table for each year from 2015 (Table I, 2-1) through 2019 (Table I, 2-5). Each project addresses a set of valve replacements that will occur within a defined area. Each project can also be tied to a map showing the proposed valve replacements as well as any valves in the vicinity that have

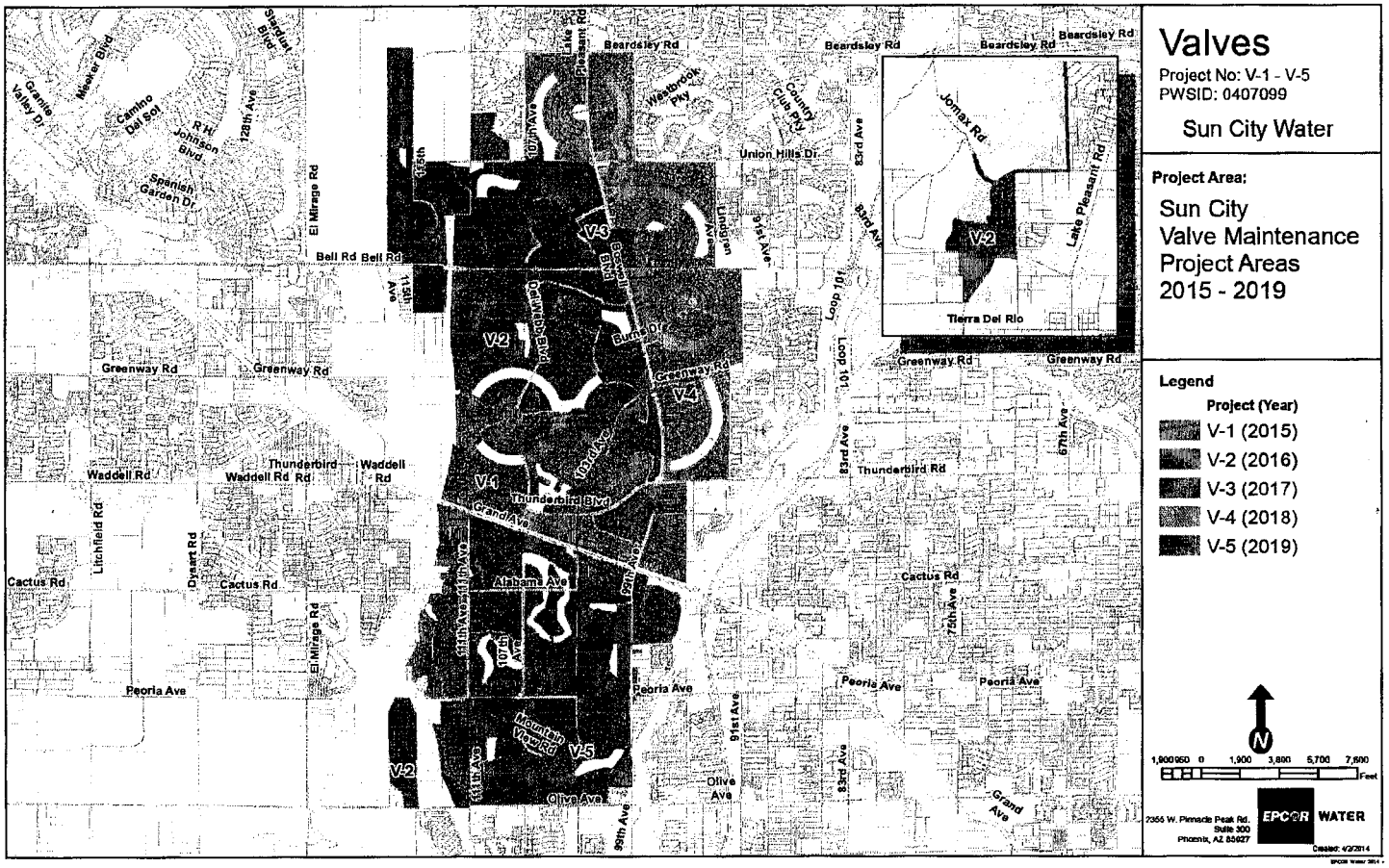
been replaced since 2008 (note that valve replacements that occurred prior to 2008 are not shown on these maps). A detailed cost estimate for each project is also provided.

SUN CITY DISTRICT - VALVE REPLACEMENTS 2008-2013

ADDRESS	CROSS STREET	INSTALL DATE	REPLACE-MENT DATE	SIZE, INCHES	TYPE	NOTES
10811 W Cheryl Dr		9/19/1960	1/31/2008	6	Gate	
10950 Union Hills Dr		12/2/1983	2/29/2008	2	Gate	
10950 Union Hills Dr		12/2/1983	2/29/2008	2	Gate	
10950 W Union Hills Dr Lot 1540		12/2/1983	6/30/2008	2	Gate	
10950 W Union Hills Dr Lot 1234		12/2/1983	7/31/2009	1.5	Gate	slow
10950 Union Hills Lot 1539		12/2/1983	8/31/2009	1.5	Gate	
10950 Union Hills Lot 1539		12/2/1983	8/31/2009	2	Gate	
10401 W Thunderbird Blvd		1/1/1960	8/31/2010	6	Gate	
13000 N 113th Ave		1/1/1959	10/31/2010	6	Gate	
108th & Oakmount Dr		9/11/1959	10/31/2010	4	Gate	
10866 Cherry Hills		9/11/1959	12/31/2010	4	Gate	
11445 W Canyon Creek Dr		12/3/1999	11/30/2011	8	Gate	
N Coyote Lakes Pkwy & N 116th Ln		4/14/1998	5/31/2012	8	Gate	broken
W Sun City Blvd & N Coggins Dr		12/1/1963	7/31/2012	6	Gate	broken
10001 Lakeview Cir		12/1/1963	9/30/2012	6	Gate	broken
12427 Pebble Beach Dr		9/11/1959	9/30/2012	6	Gate	broken
11336 N 113th Dr		1/1/1959	9/30/2012	6	Gate	broken
W Kansas Ave & N 112th Dr		1/1/1959	9/30/2012	6	Gate	broken
11336 N 113th Dr		1/1/1959	2/28/2013	6	Gate	
12201 N Thunderbird Rd		4/12/1960	4/30/2013	4	Gate	
11028 W Peoria Ave		1/1/1962	6/30/2013	0	Gate	
9892 Balboa Dr	Balboa Dr	Undetermined	7/31/2013	10	Gate	south valve /no nut
10243 Cumberland D	103rd Ave 10025	Undetermined	7/31/2013	4	Gate	broken
Concord Ave	103rd Ave 10202	Undetermined	7/31/2013	4	Gate	broken stem
Clair Dr	105th Ave	Undetermined	8/6/2013	6	Gate	broken stem
9822 105th Dr	Salem Dr	Undetermined	8/6/2013	6	Gate	no nut
10414 107th Ave	Peoria Ave	Undetermined	8/7/2013	6	Gate	sw rear of lot /broken
107th Ave	Mountain	Undetermined	8/8/2013	10	Gate	box needs re-set
10515 98th Ave	Washington St	Undetermined	8/16/2013	6	Gate	
Desert Cove Ave	#1	Undetermined	8/19/2013	8	Gate	broken nut--rear
11301 99th Ave		Undetermined	8/20/2013	4	Gate	east valve/no nut
9939 Crosby Cir	Balboa Dr	Undetermined	8/22/2013	4	Gate	broken closed
9935 Coggins Dr	Balboa Dr	Undetermined	8/22/2013	4	Gate	broken stem
12037 Thunderbird R	Alabama Ave	Undetermined	9/3/2013	4	Gate	broken stem
11819 105th Ave	Desert Hills Dr	Undetermined	9/4/2013	6	Gate	broken stem

SUN CITY DISTRICT - VALVE REPLACEMENTS 2008-2013

ADDRESS	CROSS STREET	INSTALL DATE	REPLACE-MENT DATE	SIZE, INCHES	TYPE	NOTES
10601 Connecticut Av	El Rancho Dr	Undetermined	9/4/2013	4	Gate	broken stem
10701 Connecticut Av	107th Ave	Undetermined	9/10/2013	8	Gate	broken stem


Valves
Project No: V-1 - V-5
PWSID: 0407099
Sun City Water
Project Area:
Sun City
Valve Maintenance
Project Areas
2015 - 2019
Legend
Project (Year)
V-1 (2015)
V-2 (2016)
V-3 (2017)
V-4 (2018)
V-5 (2019)
V-1
V-2
V-3
V-4
V-5
Beardsley Rd
Union Hills Dr
Bell Rd
Greenway Rd
Thunderbird Rd
Waddell Rd
Cactus Rd
Peoria Ave
Olive Ave
Grand Ave
Thunderbird Blvd
Alabama Ave
Mountain View Rd
Jomax Rd
Lake Pleasant Rd
Tierra Del Rio
Loop 101
El Mirage Rd
Litchfield Rd
Dysart Rd
Lindgren Ave
Westbrook Pky
Country Club Pky
Lake Pleasant Rd
Boswell Blvd
Del Webb Blvd
Burns Dr
Granite Valley Dr
Meeker Blvd
Camino Del Sol
R H Johnson Blvd
Spanish Garden Dr
Stardust Blvd
128th Ave
115th Ave
107th Ave
103rd Ave
99th Ave
91st Ave
83rd Ave
75th Ave
67th Ave
111th Ave
1,900 950 0 1,900 3,800 5,700 7,600
Feet
N
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 4/2/2014

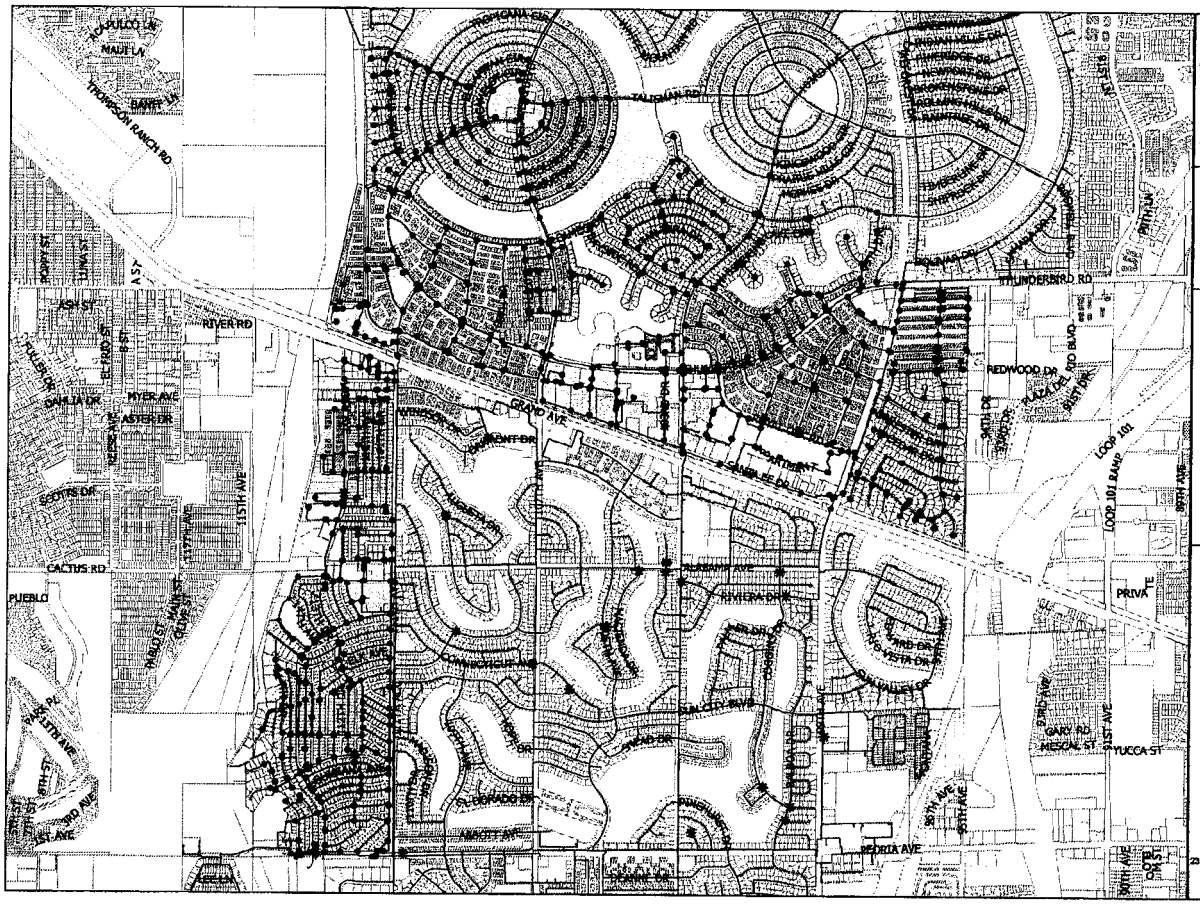
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-1

2015 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-1	331	gate valves	16	3-4" 10-6" 2-8" 1-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Youngtown and area north of Grand Ave between 95th Ave and 115th Ave (see map V-1 for detail)	12/2015	n/a	$76,375	Replace 3-4", 10-6", 2-8", and 1-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are about 35 to 55 years old. In the last five years, three valves in the area failed and were replaced. In the last year, approximately 2% of valves tested in the District were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. See Section 2 narrative and Map V-1 in Exhibit CC-1-B for more detail.
Total			16							$76,375	



2015

Project No: V-1
PWSID: 0407099

Sun City Water

Project Area:

Valve Maintenance Area V-1

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

The valves in this area are about 35 to 55 years old. Three valves in this area previously failed and were replaced.

Total Valves in Area V-1: 854

Legend

- Previous Valve Replacement (2008-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

1,000 500 0 1,000 2,000 3,000 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2015 V-1**	Project Location: Youngtown and area north of Grand Ave between 95th Ave and 115th Ave

Project Description:

Replace old distribution system valves that are not operable due to age and natural build-up of minerals on internal components with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
3	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-1.	$ 12,000
10	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-1.	$ 42,000
2	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-1.	$ 9,400
1	12" Valve	5500	Contractor material and labor to replace 10" valves in Area V-1.	$ 5,500
3	hour	28	Company labor for field oversight and construction management	$ 84
10	hour	28	Company labor for field oversight and construction management	$ 280
2	hour	28	Company labor for field oversight and construction management	$ 56
4	hour	28	Company labor for field oversight and construction management	$ 112
Subtotal				$ 69,432
General Overhead Rate on Labor and Capital (10%)				$ 6,943
Total Estimated Cost				**$ 76,375**

*Company labor includes the salary for one employee at a rate of $28/hour for one hour with the exception of valves 12" or larger, which require one employee for four hours.

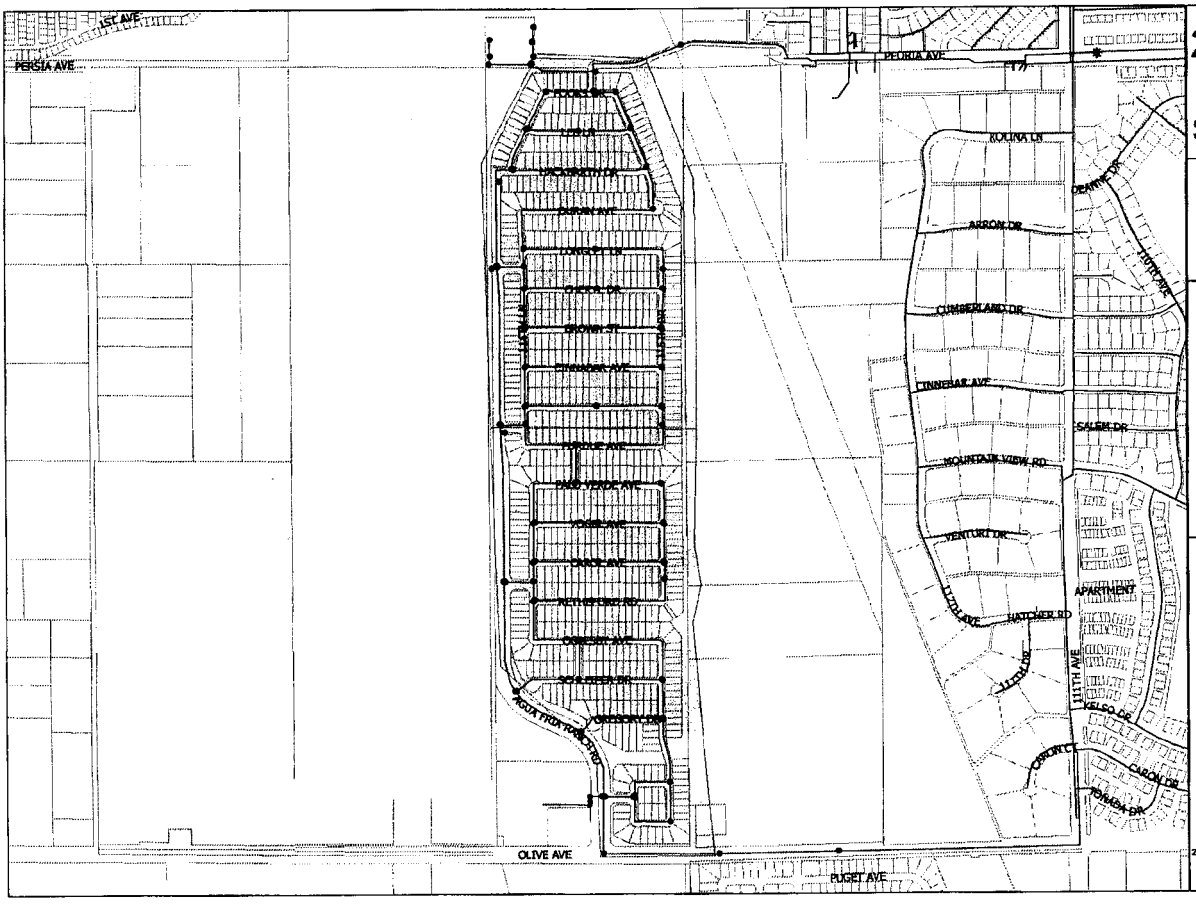
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-2

2016 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-2	331	gate valves	16	1-4" 8-6" 5-8" 1-12" 1-16"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173 16"-$7,603	Agua Fria Ranch and the area south of Bell Rd between 99th Ave and 111th Ave (see map V-2 for detail)	12/2016	n/a	$81,418	Replace 1-4", 8-6", 5-8", 1-12", and 1-16" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves are about 10 to 11 years old in Agua Fria Ranch and 41 to 45 years old in the area south of Bell Road between 99th Avenue and 111th Avenue. In the last five years, one valve in the 99th Avenue and Bell Road area failed and was replaced. In the last year, approximately 2% of valves tested in the District were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-2 in Exhibit CC-1-B for more detail.
Total			**16**							**$81,418**	



2016

Project No: V-2
PWSID: 0407099

Sun City Water

Project Area:

Valve Maintenance Area V-2
(Agua Fria Ranch)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

The valves in this area are 10 to 11 years old.

Total Valves in Area V2: 582

Legend

- Previous Valve Replacement (2008-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

375 187.5 0 375 750 1,125 Feet

2355 W. Pinnacle Peak Rd.
Suite 308
Phoenix, AZ 85027

EPCOR WATER

Created: 3/24/2014

EPCOR Water 2014

2016

Project No: V-2
PWSID: 0407099

Sun City Water

Project Area:

Valve Maintenance
Area V-2
(SWC 99th Ave. & Bell Rd.)

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

The valves in this area are 41 to 45 years old. One valve in this area previously failed and was replaced.

Total Valves in Area V2: 582

Legend

- Previous Valve Replacement (2008-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

730 365 0 730 1,460 2,190 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water 2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/11/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, P.E.	Sun City	**2016 V-2**	Agua Fria Ranch and area south of Bell Rd between 99th and 111th Ave

Project Description:

Replace old distribution system valves that are not operable due to age and natural build-up of minerals on internal components with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-2.	$ 4,000
8	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-2.	$ 33,600
5	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-2.	$ 23,500
1	12" Valve	5500	Contractor material and labor to replace 10" valves in Area V-2.	$ 5,500
1	16" Valve	6800	Contractor material and labor to replace 12" valves in Area V-2.	$ 6,800
1	hour	28	Company labor for field oversight and construction management	$ 28
8	hour	28	Company labor for field oversight and construction management	$ 224
5	hour	28	Company labor for field oversight and construction management	$ 140
4	hour	28	Company labor for field oversight and construction management	$ 112
4	hour	28	Company labor for field oversight and construction management	$ 112
Subtotal				$ 74,016
General Overhead Rate on Labor and Capital (10%)				$ 7,402
Total Estimated Cost				**$ 81,418**

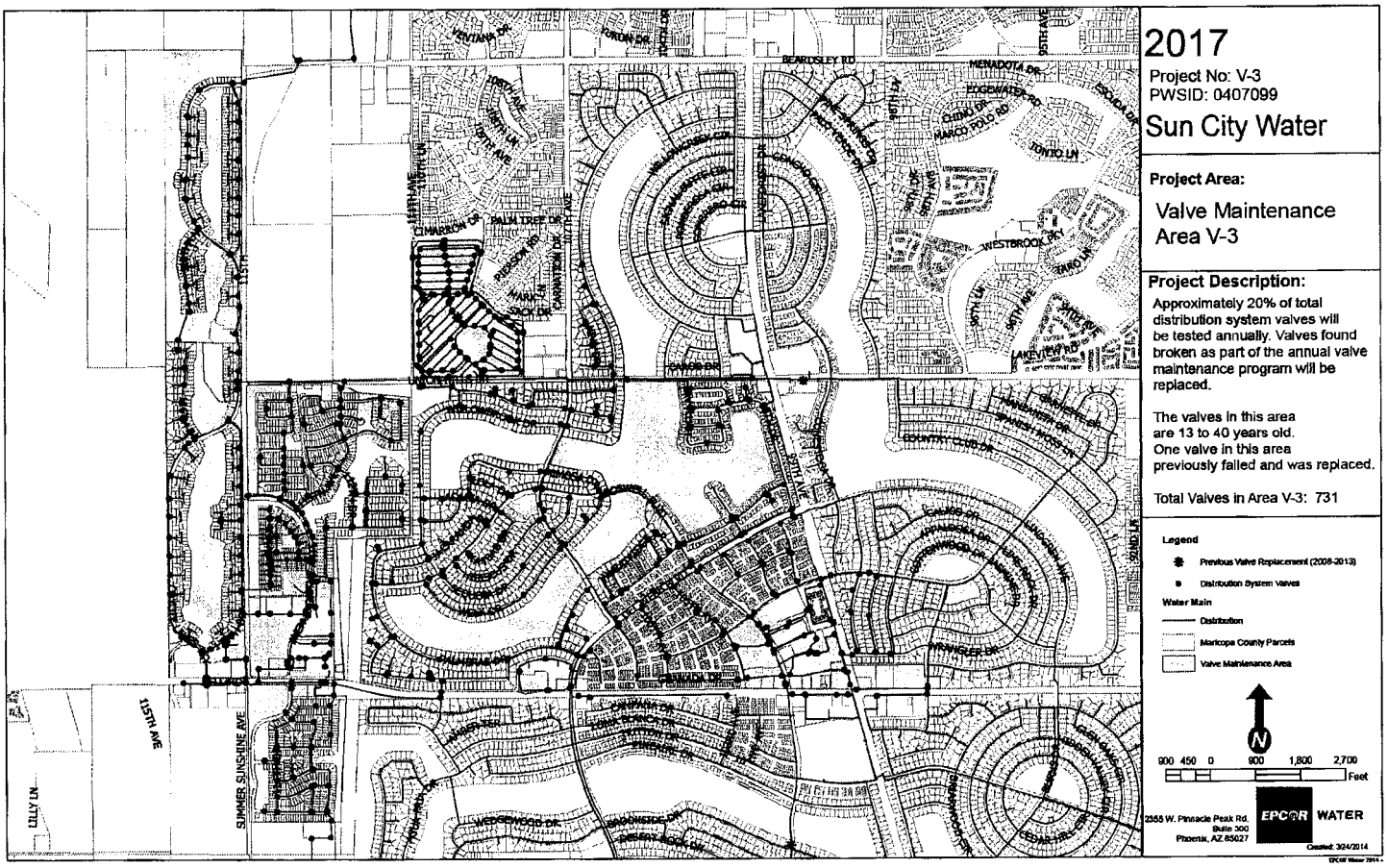
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-3

2017 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-3	331	gate valves	16	1-4" 8-6" 5-10" 2-12"	cast iron with rubberized epoxy coating	4"-$4,431 8"-$5,201 12"-$6,173	Coyote Lakes, Citrus Point, and area west of 99th Ave between Union Hills and Bell Rd (see map V-3 for detail)	12/2017	n/a	$82,188	Replace *1-4", 8-6", 5-10", and 2-12" (estimated 16 total)* distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are about 13 to 40 years old. In the last five years, one valve in the area failed and was replaced. In the last year, approximately 2% of valves tested in the District were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. See Section 2 narrative and Map V-3 in Exhibit CC-1-B for more detail.
Total			**16**							**$82,188**	


2017
Project No: V-3
PWSID: 0407099
Sun City Water
Project Area:
Valve Maintenance Area V-3
Project Description:
Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.
The valves in this area are 13 to 40 years old. One valve in this area previously failed and was replaced.
Total Valves in Area V-3: 731
Legend
Previous Valve Replacement (2008-2013)
Distribution System Valves
Water Main
Distribution
Maricopa County Parcels
Valve Maintenance Area
N
900 450 0 900 1,800 2,700
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014
BEARDSLEY RD
115TH AVE
SUMMER SUNSHINE AVE
LILLY LN

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2017 V-3**	Project Location: Coyote Lakes, Citrus Point, area west of 99th Ave between Union Hills and Bell

Project Description:

Replace old distribution system valves that are not operable due to age and natural build-up of minerals on internal components with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-3.	$ 4,000
8	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-3.	$ 33,600
5	10" Valve	5100	Contractor material and labor to replace 10" valves in Area V-3.	$ 25,500
2	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-3.	$ 11,000
				$ -
1	hour	28	Company labor for field oversight and construction management	$ 28
8	hour	28	Company labor for field oversight and construction management	$ 224
5	hour	28	Company labor for field oversight and construction management	$ 140
8	hour	28	Company labor for field oversight and construction management	$ 224
				$ -
Subtotal				$ 74,716
General Overhead Rate on Labor and Capital (10%)				$ 7,472
Total Estimated Cost				**$ 82,188**

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-4

2018 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-4	331	gate valves	16	2-4" 12-6" 2-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 12"-$6,173	Area east of 99th Ave between Thunderbird and Union Beardsley and east of 99th Ave north of Beardsley (see map V-4 for detail)	12/2018	n/a	$77,018	Replace 2-4", 12-6", and 2-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are about 35 to 43 years old. In the last five years, one valve in the area failed and was replaced. In the last year, approximately 2% of valves tested in the District were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-4 in Exhibit CC-1-B for more detail.
Total			**16**							**$77,018**	

2018

Project No: V-4
PWSID: 0407099

Sun City Water

Project Area:

Valve Maintenance
Area V-4

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

The valves in this area are 35 to 43 years old. One valve in this area previously failed and was replaced.

Total Valves in Area V-4: 768

Legend

- ✱ Previous Valve Replacement (2008-2013)
- ● Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

1,400 700 0 1,400 2,800 4,200 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water 2014 ©

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2018 V-4**	Project Location: Area east of 99th Ave btwn Thunderbird and Union Beardsley and east of 99th Ave north of Beardsley

Project Description:

Replace old distribution system valves that are not operable due to age and natural build-up of minerals on internal components with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-4.	$ 8,000
12	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-4.	$ 50,400
2	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-4.	$ 11,000
				$ -
				$ -
2	hour	28	Company labor for field oversight and construction management	$ 56
12	hour	28	Company labor for field oversight and construction management	$ 336
8	hour	28	Company labor for field oversight and construction management	$ 224
				$ -
				$ -
Subtotal				$ 70,016
General Overhead Rate on Labor and Capital (10%)				$ 7,002
Total Estimated Cost				**$ 77,018**

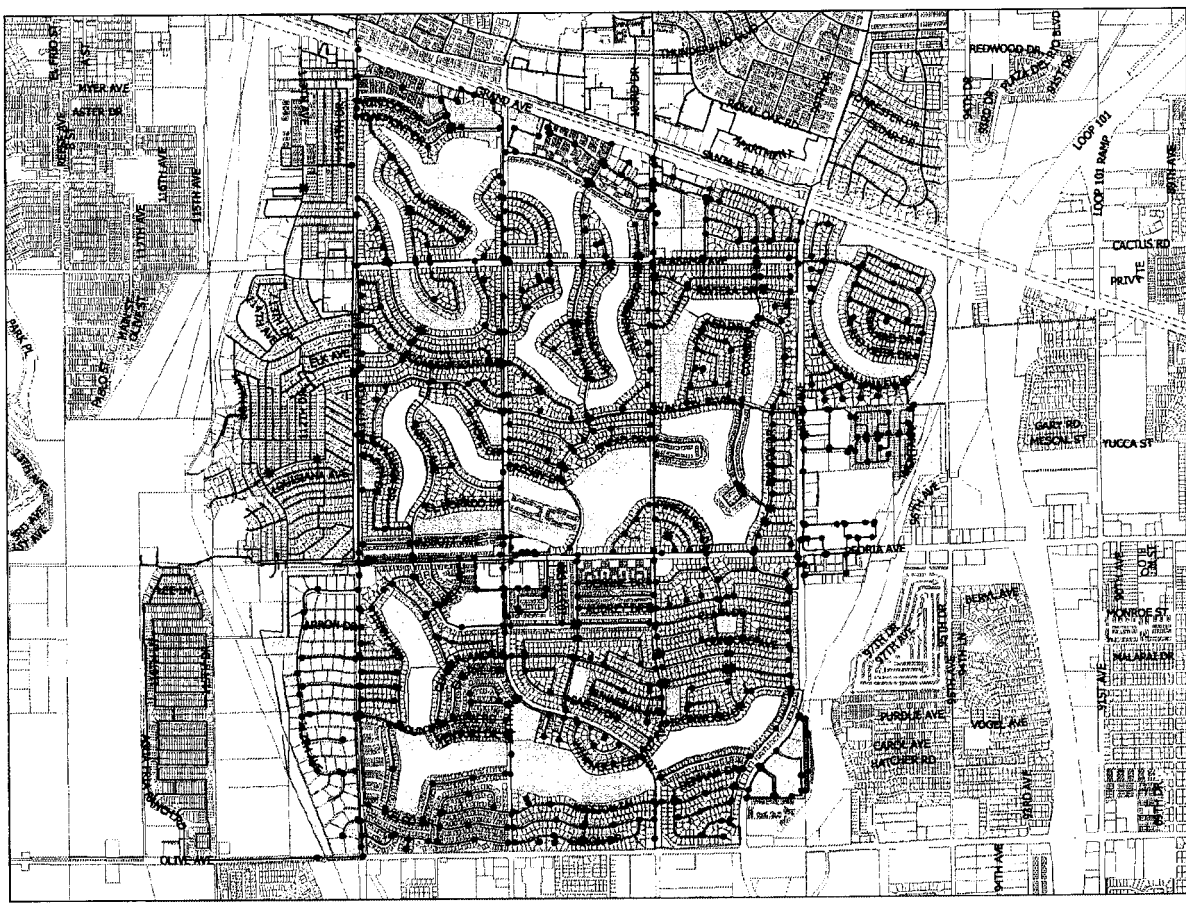
Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 2-5

2019 Valve Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
V-5	331	gate valves	16	1-4" 5-6" 7-8" 3-12"	cast iron with rubberized epoxy coating	4"-$4,431 6"-$4,651 8"-$5,201 12"-$6,173	Area between Grand Ave and Olive Ave and between 111th Ave/127th Ave and the Agua Fria Wash (see map V-5 for detail)	12/2019	n/a	$82,610	Replace 1-4", 5-6", 7-8", and 3-12" (estimated 16 total) distribution system valves that are no longer functioning. Approximately 20% of the valves will be tested annually. Valves found broken as a part of the annual valve maintenance program will be replaced. The valves in this area are about 35 to 55 years old. In the last five years, 21 valves in the area failed and were replaced. In the last year, approximately 2% of valves tested in the District were found to be inoperable or broken. The same replacement rate is expected with this project. Replacing the valves decreases time required to shutdown water mains in the event of main break or other system maintenance, which reduces customer service disruption and decreases water loss during main breaks. The valve replacements are not related to new growth. . See Section 2 narrative and Map V-5 in Exhibit CC-1-B for more detail.
Total			**16**							**$82,610**	



2019

Project No: V-5
PWSID: 0407099

Sun City Water

Project Area:

Valve Maintenance Area V-5

Project Description:

Approximately 20% of total distribution system valves will be tested annually. Valves found broken as part of the annual valve maintenance program will be replaced.

The valves in this area are 35 to 55 years old. Twenty-one valves in this area previously failed and were replaced.

Total Valves in Area V-5: 803

Legend

- Previous Valve Replacement (2008-2013)
- Distribution System Valves

Water Main

- Distribution
- Maricopa County Parcels
- Valve Maintenance Area

N

990 495 0 990 1,980 2,970 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/11/2014
Prepared By: Marc Allen, P.E.	Water System: Sun City	Project Year and Number: **2019 V-5**	Project Location: Area between Grand Ave, Olive Ave, 111th Ave/127th Ave and the Agua Fria Wash

Project Description:

Replace old distribution system valves that are not operable due to age and natural build-up of minerals on internal components with new industry standard gate valves with epoxy and rubberized internal components to prevent build-up.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	4" Valve	4000	Contractor material and labor to replace 4" valves in Area V-5.	$ 4,000
5	6" Valve	4200	Contractor material and labor to replace 6" valves in Area V-5.	$ 21,000
7	8" Valve	4700	Contractor material and labor to replace 8" valves in Area V-5.	$ 32,900
3	12" Valve	5500	Contractor material and labor to replace 12" valves in Area V-5.	$ 16,500
				$ -
1	hour	28	Company labor for field oversight and construction management	$ 28
5	hour	28	Company labor for field oversight and construction management	$ 140
7	hour	28	Company labor for field oversight and construction management	$ 196
12	hour	28	Company labor for field oversight and construction management	$ 336
				$ -
Subtotal				$ 75,100
General Overhead Rate on Labor and Capital (10%)				$ 7,510
Total Estimated Cost				**$ 82,610**

SECTION 1 – SERVICES

1.1 Overview

Based on the current customer count in EPCOR's Sun City district, there are about 23,200 active services. Most of these service lines were installed between 1959 and 1980 during the original development of Sun City. Replacement of service lines is a priority mainly because of the age of the service lines and the material of the pipe.

1.2 Nessie Curve

A "Nessie Curve" is a graphical representation of the annual replacement needs for buried infrastructure. Because it is not economical or feasible to inspect all buried infrastructure, the curve uses historical replacement data and statistical analysis to determine when an asset has reached the end of its useful life and is likely to need replacement. The end of an asset's useful life is when it is considered economically efficient to replace it; this is to say when replacement becomes less expensive than the cost of replacement or repairs in the future. Failure to replace assets when it is economical to do so can be disastrous in the future, when demographic and economic conditions may have changed. As an example, if the population of an area were to decrease in the future, the financial burden of asset replacements on the remaining population would become increasingly difficult, especially if prudent replacements have not been completed in the past.

According to the American Water Works Association (AWWA) "there will be a three-fold increase in the repair costs by the year 2030 despite a concurrent increase of three and a half times in annual investments to replace pipes." [1] The AWWA estimates that buried drinking water infrastructure will need investments totaling more than $1 trillion nationwide in the next 25 years.[2] Given these daunting predictions, it is especially important for water utility providers to implement asset replacement programs now in order to properly manage the investments that will be needed in the future.

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[1] Reinvesting in Drinking Water Infrastructure, AWWA, May 2001

[2] Buried No Longer: Confronting America's Water Infrastructure Challenge, AWWA, 2012

Exhibit 1-1 is the Nessie curve which was developed specifically for the service lines in EPCOR's Sun City district. Exhibit 1-2 shows the same data in tabular format. The curve shows that indeed the cost of replacement will be the highest between 2020 and 2030, as predicted by AWWA. It also shows that in the next six years, from 2015 through 2020, approximately $31 million should be invested in service line replacements in order to offset the rate at which the services are failing. This equates to about 1,315 service replacements or an investment of about $5.2 million per year.

Exhibit 1-1 – Service Line Nessie Curve

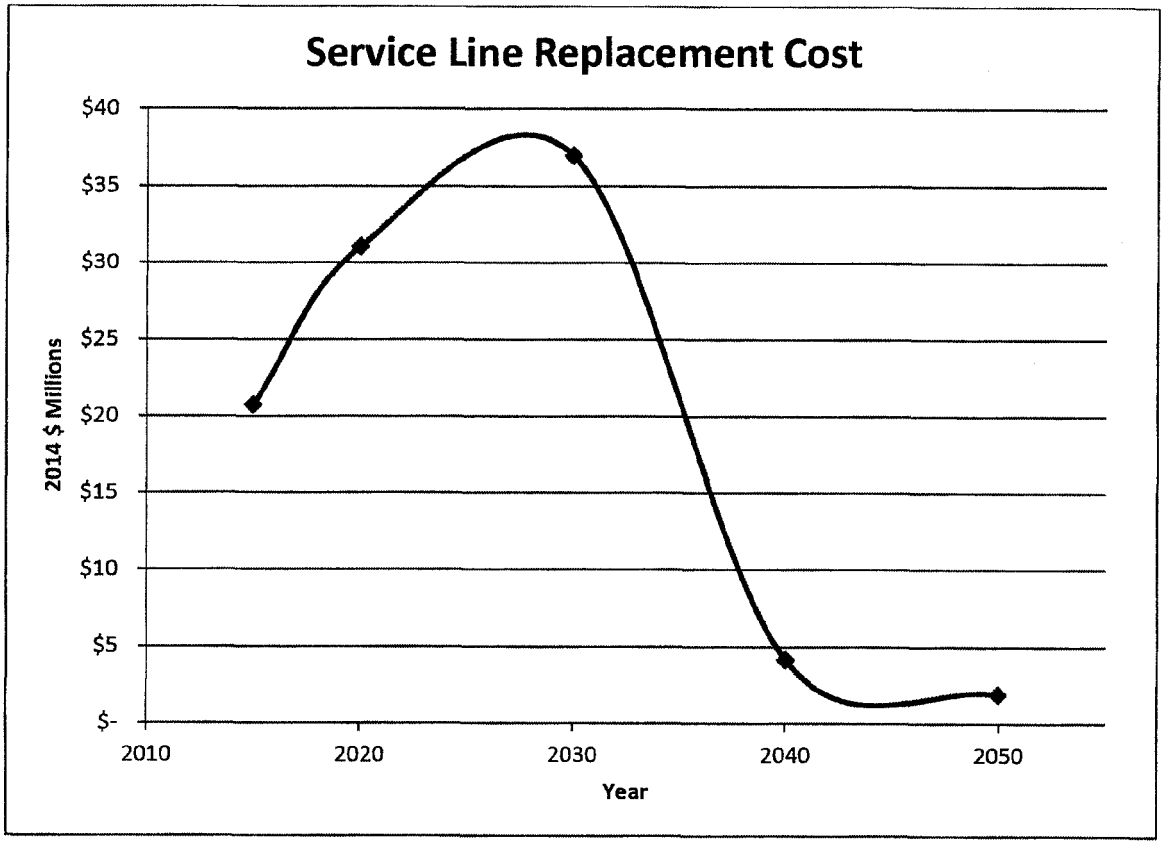


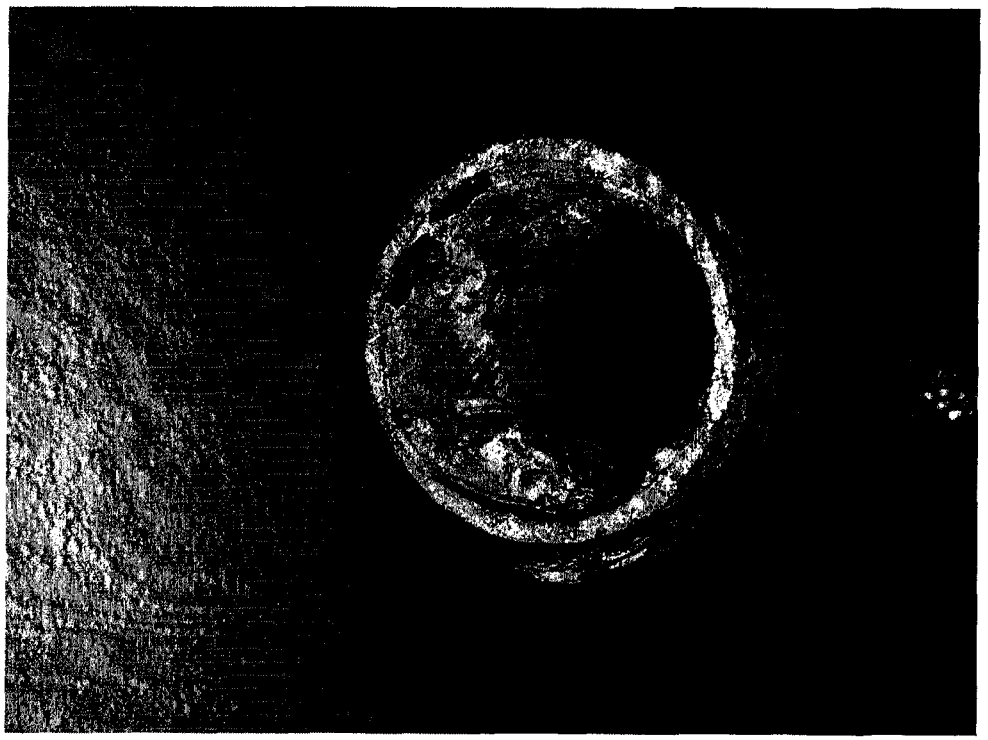
Exhibit 1-2 Nessie Curve Table

Time Frame	Number of Services to be Installed	Cost to Replace Services	Number of Service Replacements per Year	Cost per Year
today-2020	7892	$ 31,055,136	1315	$ 5,175,856
2020-2030	9393	$ 36,959,864	939	$ 3,695,986
2030-2040	1060	$ 4,170,447	106	$ 417,045
2040-2050	485	$ 1,906,930	48	$ 190,693

1.3 Service Line Material

The material that was used when the majority of the service lines were installed was galvanized steel, which deteriorates under local conditions more quickly than copper. As these pipes age, the zinc coating erodes from the pipe, leading to corrosion of other metals beneath the coating. Corrosion can build-up on the inside walls of the pipes which can interfere with pressure and flow. Galvanized pipe also tends to corrode on the outside of the pipe in certain soil types. Exhibit 1-3 is a picture of an uncovered galvanized service. Galvanized steel is no longer used for water services and has contributed to service line failures and leaks which result in unnecessary water loss and service disruption. The water from many service line leaks never surfaces because of the porous soil, causing the leaks to go undetected until they are uncovered at a later date.

Exhibit 1-3



1.4 Service Line Replacements

Historical service line replacements and repairs from 2008 through 2013 are shown in the following tab, **Historical Repair/Replacement Data**. Over the past five years, 132 service lines were repaired or replaced because they were known to be failing, which is an average of approximately 26 service line failures per year. Note that this doesn't include service lines which are leaking unbeknownst to EPCOR Water employees.

Although the Nessie curve indicates that 1,315 services should be replaced per year, this would present a significant labor and capital burden on EPCOR and its customers. Additionally, other assets including mains, valves, and meters must also be replaced. In order to develop a replacement program that includes all types of failing assets while keeping the expenditures within a reasonable range, EPCOR plans to replace an average of about 271 services per year

in 2015, 2017, 2018, and 2019. (No replacements are planned during 2016.) This equates to a total of about 1,100 services at a cost of $4.3 million.

The following map shows the location of all the service line replacement projects. The projects are described in the following tabs labeled **2015, 2017, 2018, and 2019**. SIB Plant Table I, 1-1 through SIB Plant Table I, 1-4 provide a detailed description of each service line replacement project. The tables are broken down by year, so a separate table is provided for each year from 2015 through 2019 except for 2016, when no replacements are planned. Each project addresses a set of service line replacements that will occur within a defined area. Each project can also be tied to a map showing the parcel where the proposed service line will be replaced. A detailed cost estimate for each project is also provided.

SUN CITY DISTRICT - SERVICE REPLACEMENTS AND REPAIRS 2008-2013

ADDRESS	INSTALL DATE	REPAIR/REPLACE-MENT DATE	SIZE, INCHES
9447 W Thunderbird Rd	2/3/1972	1/31/2008	1 1/2
10522 W Cheryl Dr	11/17/1966	1/31/2008	3/4
9922 W Alabama Ave	12/1/1963	2/29/2008	1 1/2
10202 W Ocotillo	9/1/1980	2/29/2008	1 1/2
9922 W Alabama Ave	12/1/1963	2/29/2008	1 1/2
17447 N Ave of the Arts	11/20/2002	3/31/2008	2
10626 W Pineaire Dr	7/5/1973	3/31/2008	1 1/2
11275 N 99th Ave	1/1/1972	3/31/2008	3/4
11275 N 99th Ave Lot 156	1/1/1972	3/31/2008	3/4
10267 N Agua Fria Pkwy		4/30/2008	2
10631 W Clair Dr	12/31/1961	5/31/2008	1 1/2
11275 N 99th Ave Lot 210	1/1/1972	5/31/2008	3/4
10932 W Cumberland Dr	12/31/1966	6/30/2008	3/4
10932 W Cumberland Dr	12/31/1966	6/30/2008	3/4
10001 W Bell Rd Unit 132-134		6/30/2008	2
11520 W Lizard Ct	4/14/1998	7/31/2008	3/4
10287 Snead Cir		8/31/2008	1 1/2
10706 W Caron Ct	7/6/1967	9/30/2008	1 1/2
10702 W Salem Dr	9/19/1960	10/31/2008	1 1/2
11421 N 107th Ave	4/12/1960	10/31/2008	1
9880 W Peoria Ave	1/1/1962	10/31/2008	2
10411 N 111th Ave	12/31/1966	12/31/2008	1 3/4
W Peoria Ave & N 111th Ave	1/1/2001	12/31/2008	2
11031 N 110th Ave		12/31/2008	3/4
10950 W Union Hills Lift Station	12/2/1983	12/31/2008	1 1/2
15800 Del Webb Blvd	1/1/1972	1/31/2009	1 1/2
11016 W Peoria Ave	1/1/1962	2/28/2009	1 1/2
9803 Bell Rd	11/15/1973	3/31/2009	2
10725 W Oakmont Dr	9/11/1959	3/31/2009	1
10507 Oakmount Dr	4/12/1960	4/30/2009	1 1/2
19433 N 99th Dr	8/5/1976	4/30/2009	1
11039 W Salem Dr	12/31/1966	4/30/2009	3/4
11626 N 107th Ave	4/12/1960	5/31/2009	1
10834 W Caron Dr	7/6/1967	5/31/2009	1 1/2
17658 N 113th Ave	9/9/1999	5/31/2009	3/4
11039 W Salem Dr	12/31/1966	5/31/2009	3/4
11039 W Salem Dr	12/31/1966	5/31/2009	3/4
11033 W Salem Dr	12/31/1966	6/30/2009	3/4
11033 W Salem Dr	12/31/1966	6/30/2009	3/4
10632 W Dream ???	5/19/1967	6/30/2009	1 1/2
10408 Prairie Hills Cir	2/25/1970	6/30/2009	1 1/2
9618 W Lindgren Ave	1/1/1979	7/31/2009	1
11039 W Salem Dr	12/31/1966	8/31/2009	3/4
11039 W Salem Dr	12/31/1966	8/31/2009	3/4

SUN CITY DISTRICT - SERVICE REPLACEMENTS AND REPAIRS 2008-2013

ADDRESS	INSTALL DATE	REPAIR/REPLACE-MENT DATE	SIZE, INCHES
10608 W Salem Dr	11/17/1966	8/31/2009	3/4
10608 W Salem Dr	11/17/1966	8/31/2009	3/4
11661 W Bell Rd	1/1/1995	8/31/2009	1 1/2
11426 W Duluth Ave	1/1/1959	9/30/2009	1
10211 W Thunderbird Rd	9/16/1970	9/30/2009	1 1/2
9958 W Santa Fe Dr	1/1/1960	9/30/2009	1
W Peoria Ave & N 111th Ave	1/1/2001	9/30/2009	2
12207 N 113th Ave	1/1/1959	10/31/2009	2
10863 Santa Fe Dr	11/19/1969	10/31/2009	2
11221 Duluth Ave	1/1/1959	10/31/2009	1
10830 W Oakmont Dr	9/11/1959	10/31/2009	3/4
12214 N 112th Ln	1/1/1959	1/31/2010	2
11347 N 112th Ave	1/1/1959	2/28/2010	2
9824 W Peoria Ave	1/1/1972	3/30/2010	1
W Bell Rd & N Lindgren Ave	11/15/1973	4/30/2010	2
19022 N Concho Cir	8/11/1977	6/30/2010	1 1/2
17425 W Corte Del Sol		6/30/2010	1
10243 W Grand Ave	1/1/1960	8/31/2010	1 1/2
10603 Highwood	11/14/1974	8/31/2010	1 1/2
10502 El Capitan Cir	3/4/1969	8/31/2010	1 1/2
11150 Lily McKinley Dr	8/3/2000	8/31/2010	1
9906 W Thunderbird Blvd	9/16/1970	8/31/2010	1 1/2
10001 W Bell Rd Suite 132	6/25/1973	8/31/2010	2
10725 Oakmount Dr	1/1/1960	9/30/2010	1 1/2
17630 N 104th Ave	9/1/1980	10/31/2010	2
10332 Deane	12/31/1961	10/31/2010	2
10801 Oakmount Dr	9/11/1959	10/31/2010	3/4
10950 W Union Hills Dr Lot 1357	12/2/1983	10/31/2010	1 1/4
10950 W Union Hills Dr Lot 1242	12/2/1983	10/31/2010	1 1/4
9817 W Shasta Dr	9/21/1971	11/30/2010	1 1/2
10748 W Hope	8/9/1960	11/30/2010	3/4
10748 W Hope	8/9/1960	11/30/2010	3/4
9718 Desert Hills	1/1/1979	12/30/2010	2 3/4
10620 W Roundelay Cir	3/4/1969	12/31/2010	1 1/2
N 99th Ave & W Greenway Rd	1/1/1970	1/31/2011	1 1/2
10233 Snead Cir S		1/31/2011	1 1/2
15626 N Del Webb Blvd	1/1/1972	2/28/2011	3/4
10050 W Bell Rd	1/1/1975	4/30/2011	1
11032 W Cheryl Dr	12/31/1966	4/30/2011	3/4
11032 W Cheryl Dr	12/31/1966	4/30/2011	3/4
10810 W Acacia Dr	8/14/1974	4/30/2011	3/4
11020 W Cheryl Dr	12/31/1966	5/31/2011	3/4
11020 W Cheryl Dr	12/31/1966	5/31/2011	3/4
13659 N Buccaneer	4/25/1968	5/31/2011	1 1/2

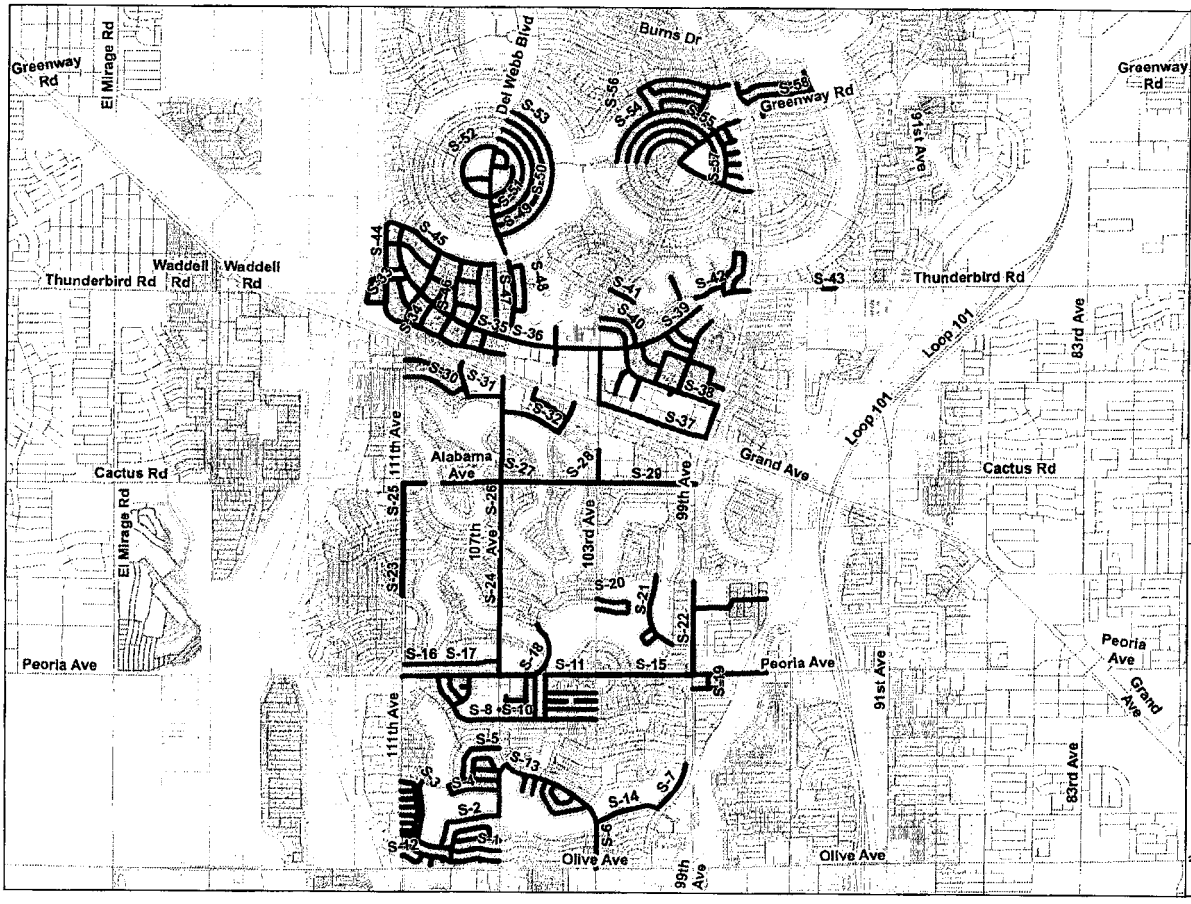
SUN CITY DISTRICT - SERVICE REPLACEMENTS AND REPAIRS 2008-2013

ADDRESS	INSTALL DATE	REPAIR/REPLACE-MENT DATE	SIZE, INCHES
15664 N 99th Ave	2/22/1972	5/31/2011	1 1/2
15470 N 99th Ave	2/1/1972	6/30/2011	1 1/2
10036 W Santa Fe Dr	1/1/1960	6/30/2011	1 1/2
N Del Webb Blvd & Boswell Blvd		7/31/2011	2
9231 N 99th Ave	1/1/1972	8/31/2011	2
9231 N 99th Ave	1/1/1972	8/31/2011	2
11127 W California Ave	1/1/1959	8/31/2011	1
10307 Deanne	12/31/1961	9/30/2011	1 1/2
10309 Deanne	12/31/1961	9/30/2011	1 1/2
9901 N Agua Fria Dr		9/30/2011	2
14801 N 103rd Ave	2/25/1970	10/31/2011	1 1/2
10414 W Clair Dr	12/31/1961	10/31/2011	1 1/2
10763 W Peoria Ave	1/1/1960	10/31/2011	1 1/2
13245 N 113th Ave	1/1/1959	11/30/2011	1
16846 N 103rd Dr	7/5/1973	11/30/2011	1 1/2
10050 W Bell Rd	6/25/1973	12/31/2011	1 1/2
11389 N 114th Dr	1/1/1959	1/31/2012	3/4
10040 W Bell Rd	1/1/1975	2/29/2012	2
11339 N Langford Ave	1/1/1959	3/31/2012	3/4
10238 W Snead Dr	12/1/1963	3/31/2012	1 1/2
11040 N Coggins Dr	12/1/1963	4/30/2012	1 1/2
9944 W Bell Rd	6/25/1973	4/30/2012	3/4
10868 W Cheryl Dr	9/19/1960	6/30/2012	1 1/2
10838 W Cheryl Dr	9/19/1960	6/30/2012	1 1/2
10320 W Corte Del Sol Este	12/31/1961	7/31/2012	1 1/2
10830 Cheryl Dr	9/19/1960	9/30/2012	1 1/2
N 99th Ave & W Thunderbird Blvd	9/16/1970	9/30/2012	1 1/2
10650 Pineaire Dr	7/5/1973	11/30/2012	1 1/2
17631 104th Ave	9/1/1980	11/30/2012	1 1/2
10042 Ocotillo Dr	9/1/1980	12/31/2012	2
9910 W Newport Dr	2/25/1970	12/31/2012	1 1/2
N 107th Ave & W La Jolla Dr	1/1/1962	1/31/2013	1
12636 N 105th Ave	1/1/1960	4/30/2013	1 1/2
10015 Royale Oaks Rd Lot 1029		4/30/2013	2
10725 W Grand Ave	1/1/1960	5/31/2013	1 1/2
10701 W Grand Ave	1/1/1959	5/31/2013	1 1/2
17451 N 99th Dr	9/1/1980	5/31/2013	2
9902 W Santa Fe Dr	1/1/1960	5/31/2013	1 1/2
10652 W Bayside Rd	4/25/1968	5/31/2013	1 1/2
N 107th Ave & W Clair Dr	12/31/1961	5/31/2013	1 1/2
10869 W Thunderbird Rd	11/19/1969	6/30/2013	1 1/2
10869 W Thunderbird Rd	11/19/1969	6/30/2013	1 1/2
10741 W El Cortez Pl		6/30/2013	2
99th Ave & Sun City Blvd		7/31/2013	3/4

SUN CITY DISTRICT - SERVICE REPLACEMENTS AND REPAIRS 2008-2013

ADDRESS	INSTALL DATE	REPAIR/REPLACE-MENT DATE	SIZE, INCHES

Note: In addition to the data above, 312 service replacements were recently identified in the field by operations staff who physically opened meter boxes to visually verify that galvanized steel or poly pipe was replaced with copper. This number does not represent the total number of replacements in the district. Rather, it is simply the number identified in the area where staff checked. No other records are available for these replacements--the date of replacement is unknown.



Services

Project No: N/A
PWSID: 0407099

Sun City Water

Project Area:

Sun City Services Project Areas

Project Description:

Service replacements
2015, 2017, 2018 and 2019

1,000 0 1,000 2,000 3,000 4,000 Feet

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

EPCOR WATER

Created: 2/10/2014

EPCOR Water 2014

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 1-1

2015 Service Line Replacements

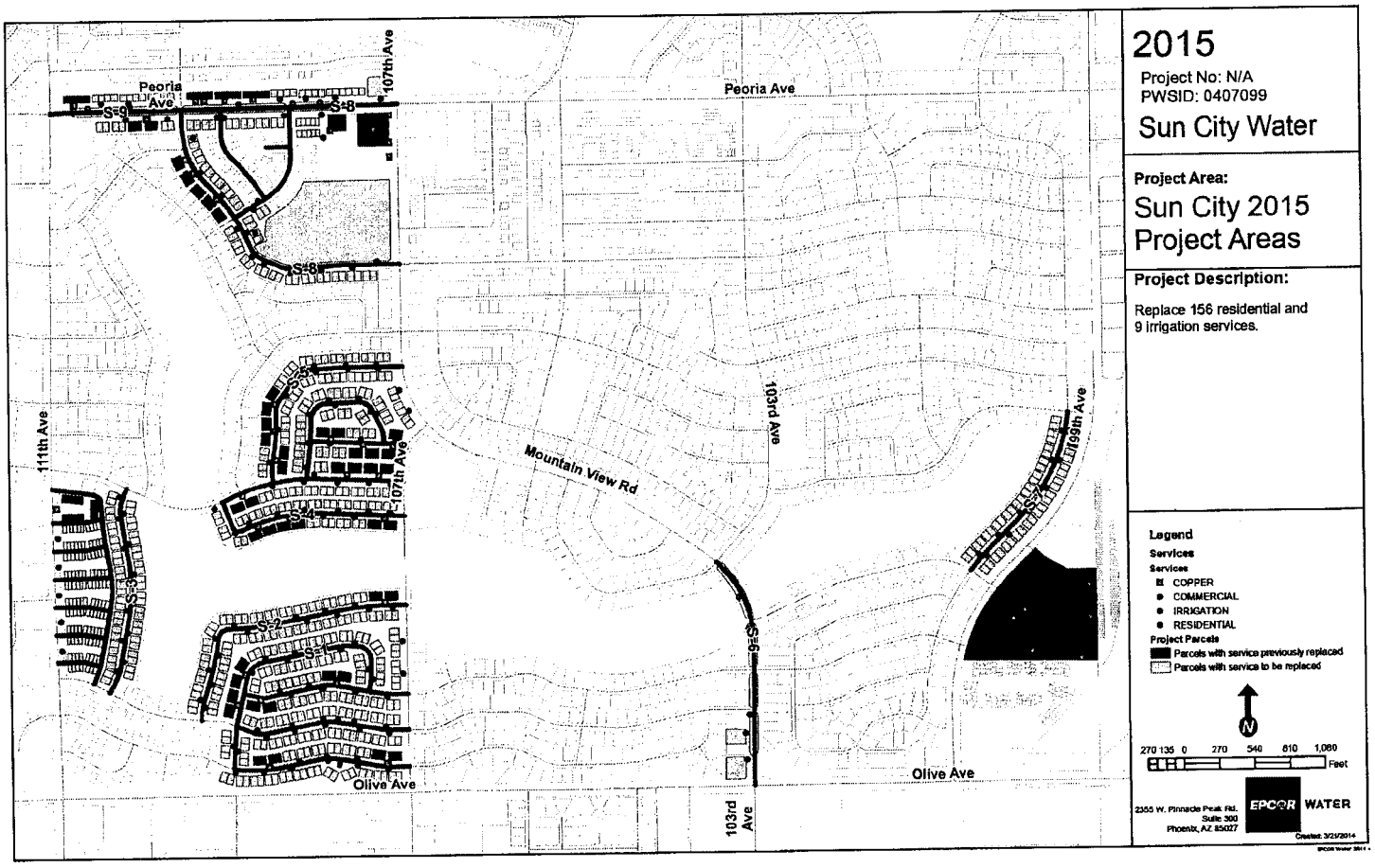
Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - *replacement of existing plant that has exceeded its* designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining *the utility's systematic assessment, inspection, maintenance,* and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-1	333	service lines	42	2-1" 40-1.5"	Copper	1"-$3,881, 1.5"-$3,947	Kelso Dr	12/2015	n/a	$165,634	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (42 total on 107th Dr, 109th Ave, Caron Dr, Denham Dr, Kelso Dr and Mission Ln between 109th Ave and 107 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section I narrative and Map No. S-1 in Exhibit CC-I-B for more detail.
S-2	333	service lines	17	1"	Copper	1"-$3,881	Hatcher Rd	12/2015	n/a	$65,974	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (17 total on 109th Dr and Hatcher Rd between Kelso Dr and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for

											existing customers and not related to new growth. See Section 1 narrative and Map No. S-2 in Exhibit CC-1-B for more detail.
S-3	333	service lines	18	14-1.5" 4-2"	Copper	1.5"-$3,947 2"-$4,013	110th Ave	12/2015	n/a	$71,306	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (18 total on 110th Ave and Apartments between Kelso Dr and Mountain View Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-3 in Exhibit CC-1-B for more detail.
S-4	333	service lines	16	1.5"	Copper	$3,947	Mountain View Rd	12/2015	n/a	$63,149	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (16 total on Mountain View Rd and Venturi Dr between Cumberland Dr and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-4 in Exhibit CC-1-B for more detail.
S-5	333	service lines	22	1.5"	Copper	$3,947	Cheryl Dr	12/2015	n/a	$86,830	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Cheryl Dr, Cinnabar Ave, Cumberland Dr, and Salem Dr between Mountain View Rd and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-5 in Exhibit CC-1-B for more detail..

S-6	333	service lines	5	1.5"	Copper	$3,947	103rd Ave	12/2015	n/a	$19,734	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on 103rd Ave between Mountain View Rd and Olive Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-6 in Exhibit CC-1-B for more detail.
S-7	333	service lines	11	1.5"	Copper	$3,947	Balboa Dr	12/2015	n/a	$43,415	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on Balboa Dr between Mountain View Rd and Ironwood Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-7 in Exhibit CC-1-B for more detail.
S-8	333	service lines	24	1.5"	Copper	$3,947	108th Dr	12/2015	n/a	$94,723	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (24 total on 108th Ave, 108th Dr, Clair Dr, Deanne Cir and Peoria Ave between 109th Ave and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-8 in Exhibit CC-1-B for more detail.
S-9	333	service lines	10	1.5"	Copper	$3,947	Clair Dr	12/2015	n/a	$39,468	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Clair Dr and Peoria Ave between 111th Ave and 108th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-9 in Exhibit CC-1-B for more detail.

Total	**165**							**$650,232**	



2015

Project No: N/A
PWSID: 0407099

Sun City Water

Project Area:

Sun City 2015 Project Areas

Project Description:

Replace 156 residential and 9 irrigation services.

Legend

Services

Services
- COPPER
- COMMERCIAL
- IRRIGATION
- RESIDENTIAL

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced

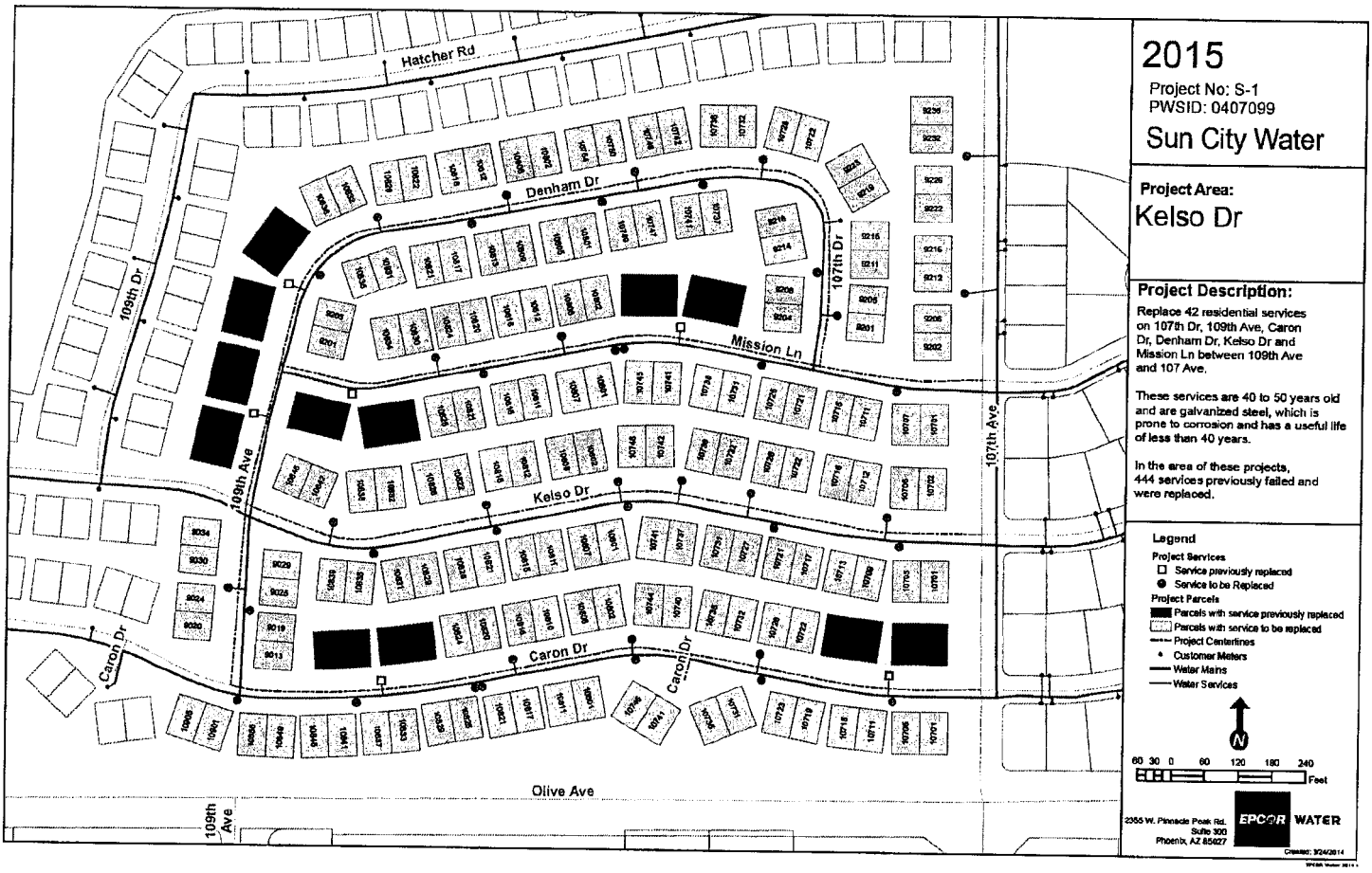
N

270 135 0 270 540 810 1,080 Feet

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

EPCOR WATER

Created: 3/21/2014


Hatcher Rd
Denham Dr
Mission Ln
Kelso Dr
Caron Dr
Olive Ave
109th Dr
109th Ave
107th Dr
107th Ave
2015
Project No: S-1
PWSID: 0407099
Sun City Water
Project Area:
Kelso Dr
Project Description:
Replace 42 residential services on 107th Dr, 109th Ave, Caron Dr, Denham Dr, Kelso Dr and Mission Ln between 109th Ave and 107 Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
60 30 0 60 120 180 240
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

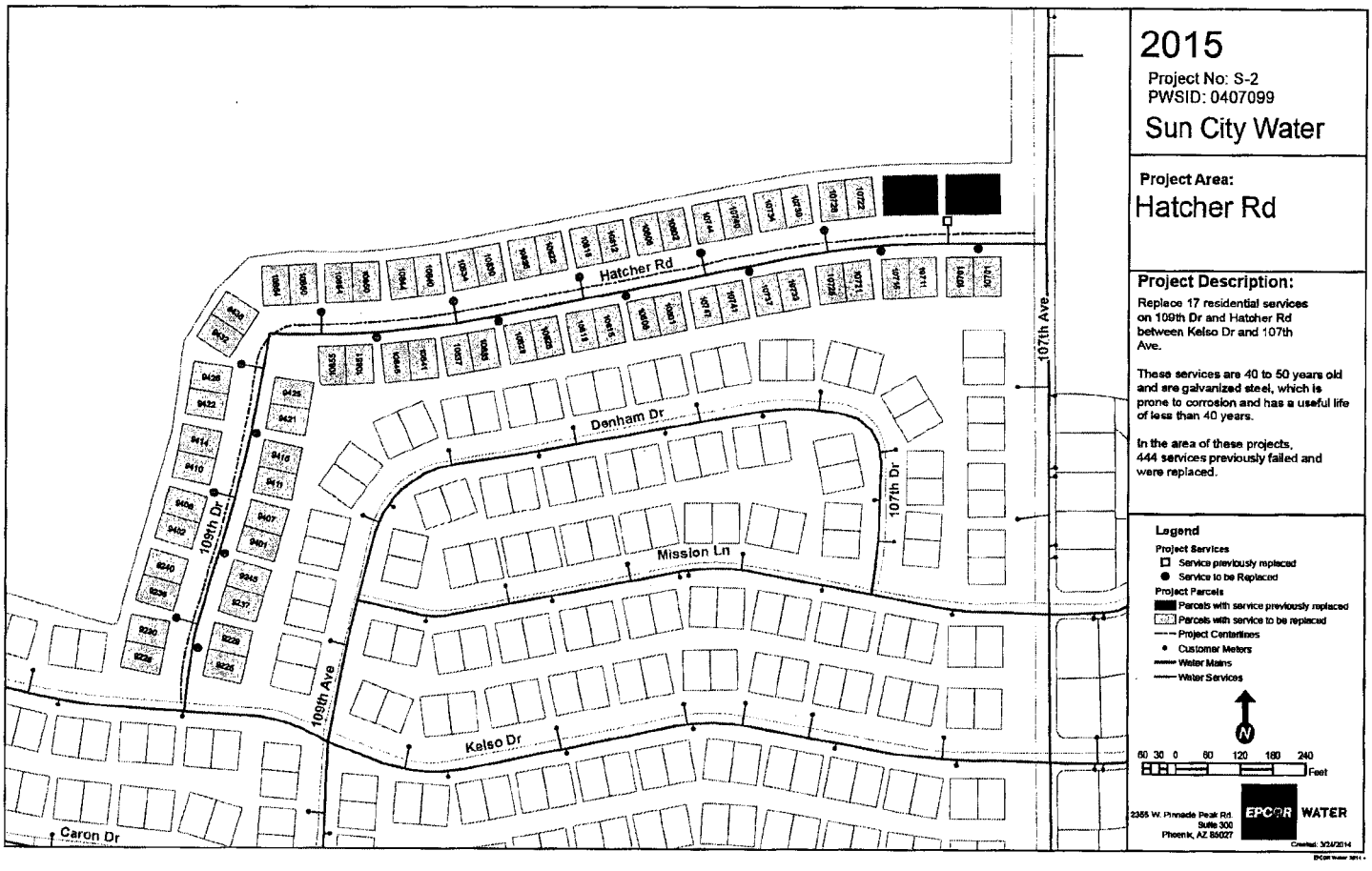
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2015 S-1**	Project Location: Kelso Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (42 total on 107th Dr, 109th Ave, Caron Dr, Denham Dr, Kelso Dr and Mission Ln between 109th Ave and 107 Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2	1" service	3500	Contractor material and labor to replace services	$ 7,000
40	1.5" service	3560	Contractor material and labor to replace services	$ 142,400
42	hours	28	Company labor for field oversight and construction project management	$ 1,176
Subtotal				$ 150,576
General Overhead Rate on Labor and Capital (10%)				$ 15,058
Total Estimated Cost				**$ 165,634**


Hatcher Rd
Denham Dr
Mission Ln
Kelso Dr
Caron Dr
107th Ave
107th Dr
109th Dr
109th Ave
2015
Project No: S-2
PWSID: 0407099
Sun City Water
Project Area:
Hatcher Rd
Project Description:
Replace 17 residential services on 109th Dr and Hatcher Rd between Kelso Dr and 107th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
60 30 0 60 120 180 240
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

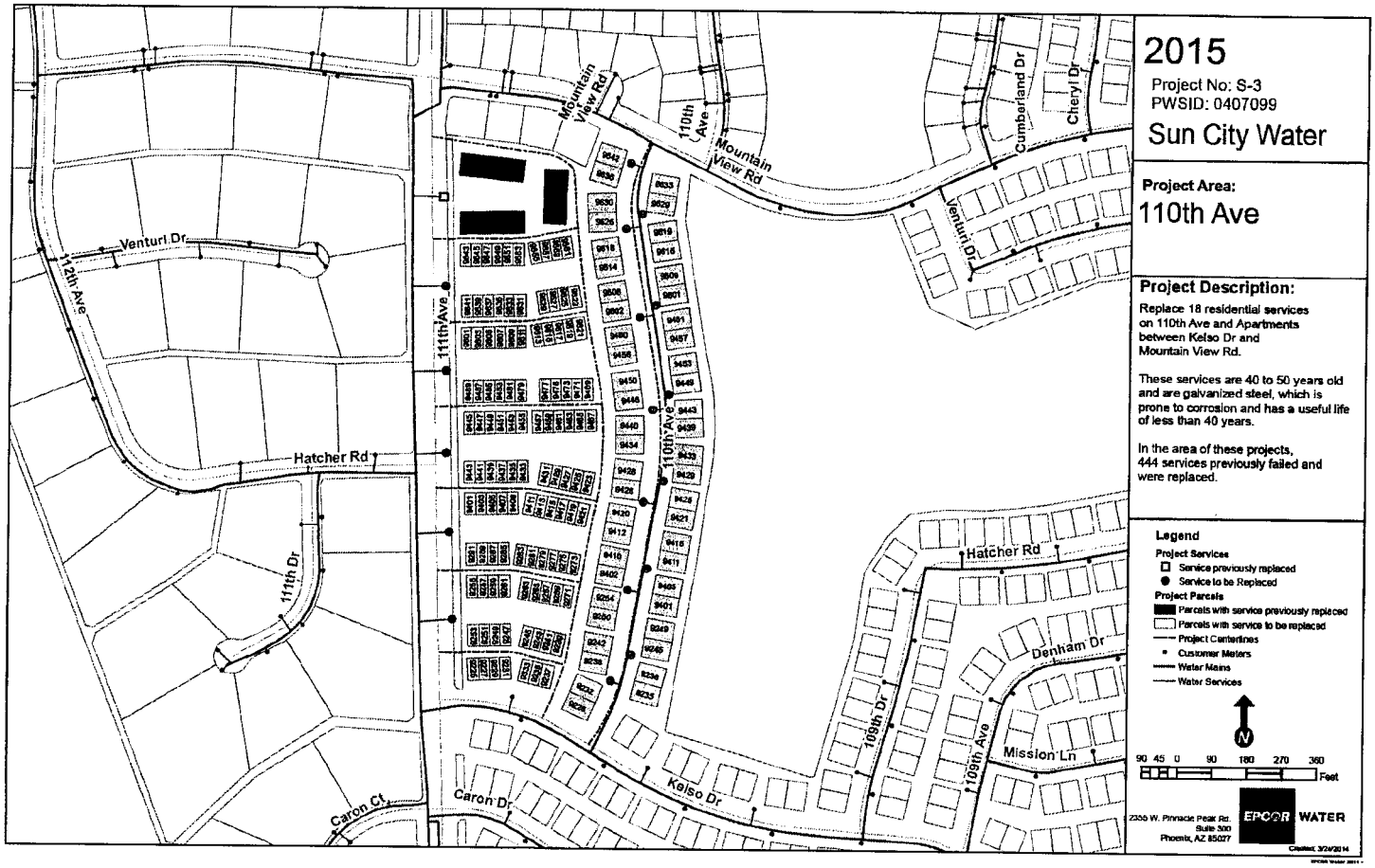
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2015 S-2**	Project Location: Hatcher Rd

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (17 total on 109th Dr and Hatcher Rd between Kelso Dr and 107th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
17	1" service	3500	Contractor material and labor to replace services	$ 59,500
17	hours	28	Company labor for field oversight and construction project management	$ 476
Subtotal				$ 59,976
General Overhead Rate on Labor and Capital (10%)				$ 5,998
Total Estimated Cost				**$ 65,974**


Venturi Dr
112th Ave
Hatcher Rd
111th Dr
Caron Ct
Caron Dr
111th Ave
Mountain View Rd
110th Ave
Mountain View Rd
Venturi Dr
Cumberland Dr
Cheryl Dr
110th Ave
Hatcher Rd
Denham Dr
109th Dr
109th Ave
Mission Ln
Kelso Dr
2015
Project No: S-3
PWSID: 0407099
Sun City Water
Project Area:
110th Ave
Project Description:
Replace 18 residential services on 110th Ave and Apartments between Kelso Dr and Mountain View Rd.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
90 45 0 90 180 270 360
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

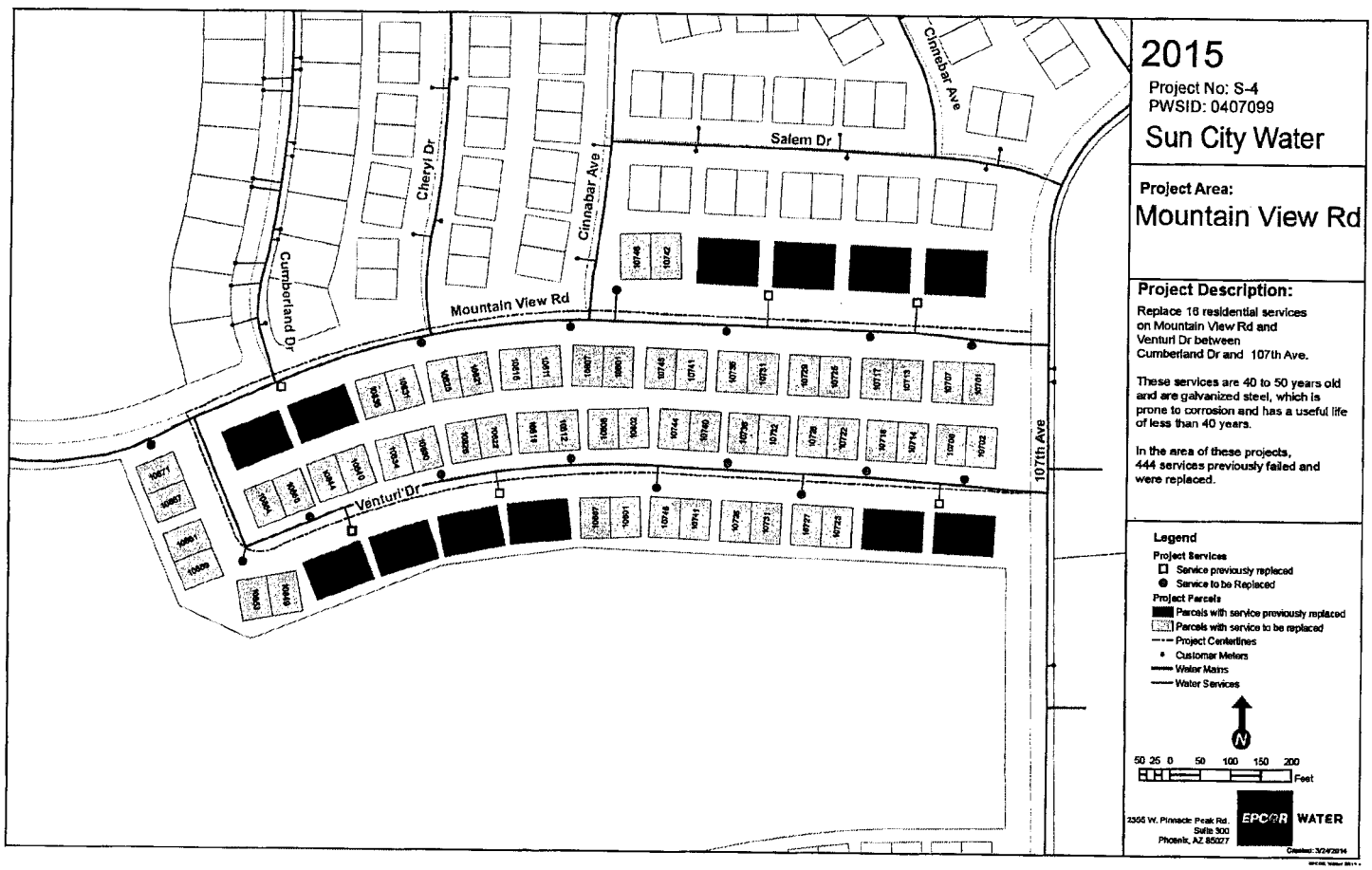
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2015 S-3**	Project Location: 110th Ave	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (18 total on 110th Ave and Apartments between Kelso Dr and Mountain View Rd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
14	1.5" service	3560	Contractor material and labor to replace services	$ 49,840
4	2" service	3620	Contractor material and labor to replace services	$ 14,480
18	hours	28	Company labor for field oversight and construction project management	$ 504
Subtotal				$ 64,824
General Overhead Rate on Labor and Capital (10%)				$ 6,482
Total Estimated Cost				**$ 71,306**



2015

Project No: S-4
PWSID: 0407099

Sun City Water

Project Area:
Mountain View Rd

Project Description:

Replace 16 residential services on Mountain View Rd and Venturi Dr between Cumberland Dr and 107th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

50 25 0 50 100 150 200
Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

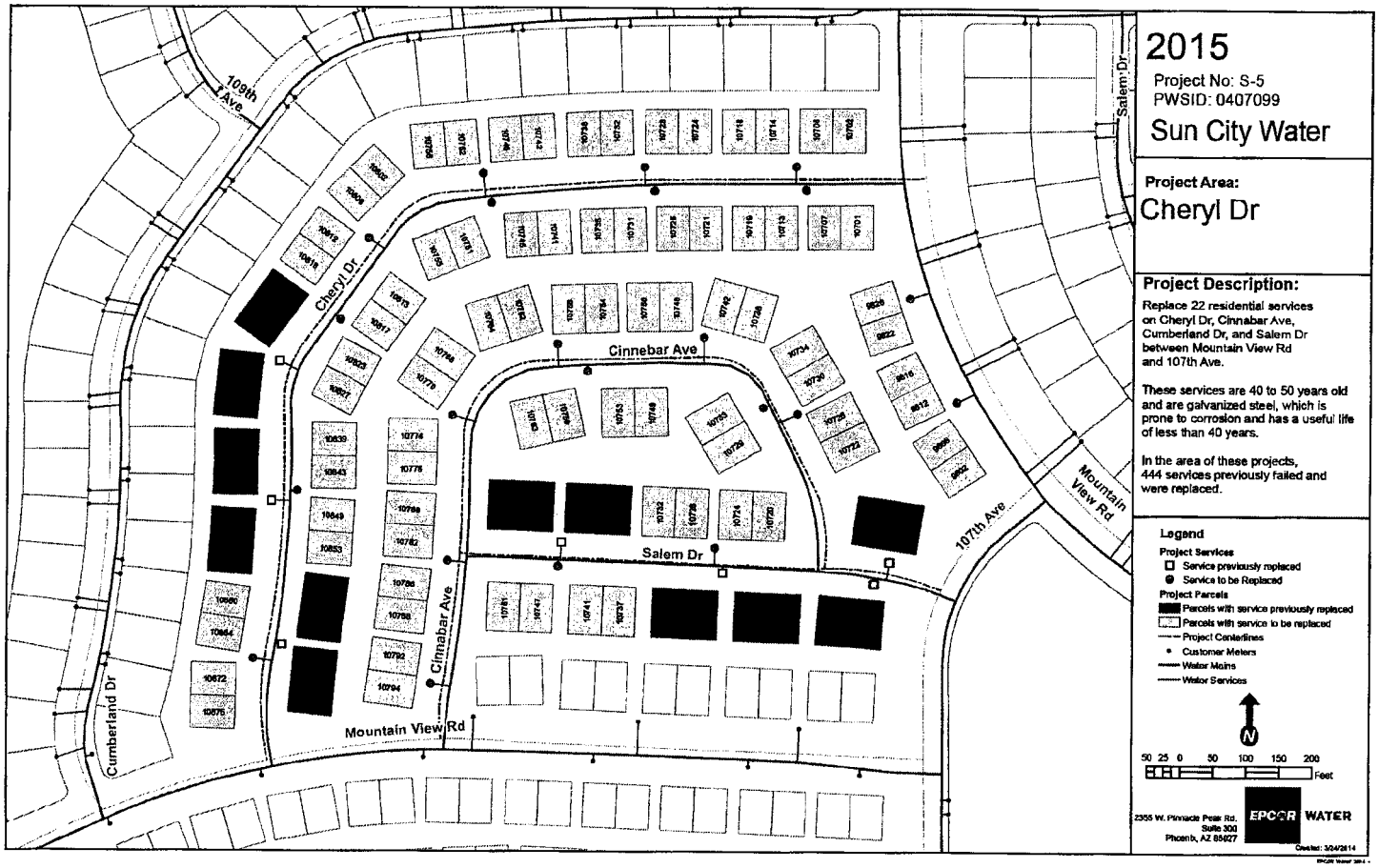
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2015 S-4**	Mountain View Rd

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (16 total on Mountain View Rd and Venturi Dr between Cumberland Dr and 107th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
16	1.5" service	3560	Contractor material and labor to replace services	$ 56,960
16	hours	28	Company labor for field oversight and construction project management	$ 448
Subtotal				$ 57,408
General Overhead Rate on Labor and Capital (10%)				$ 5,741
Total Estimated Cost				**$ 63,149**



2015

Project No: S-5
PWSID: 0407099

Sun City Water

Project Area:

Cheryl Dr

Project Description:

Replace 22 residential services on Cheryl Dr, Cinnabar Ave, Cumberland Dr, and Salem Dr between Mountain View Rd and 107th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

50 25 0 50 100 150 200 Feet

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

EPCOR WATER

Created: 3/24/2014

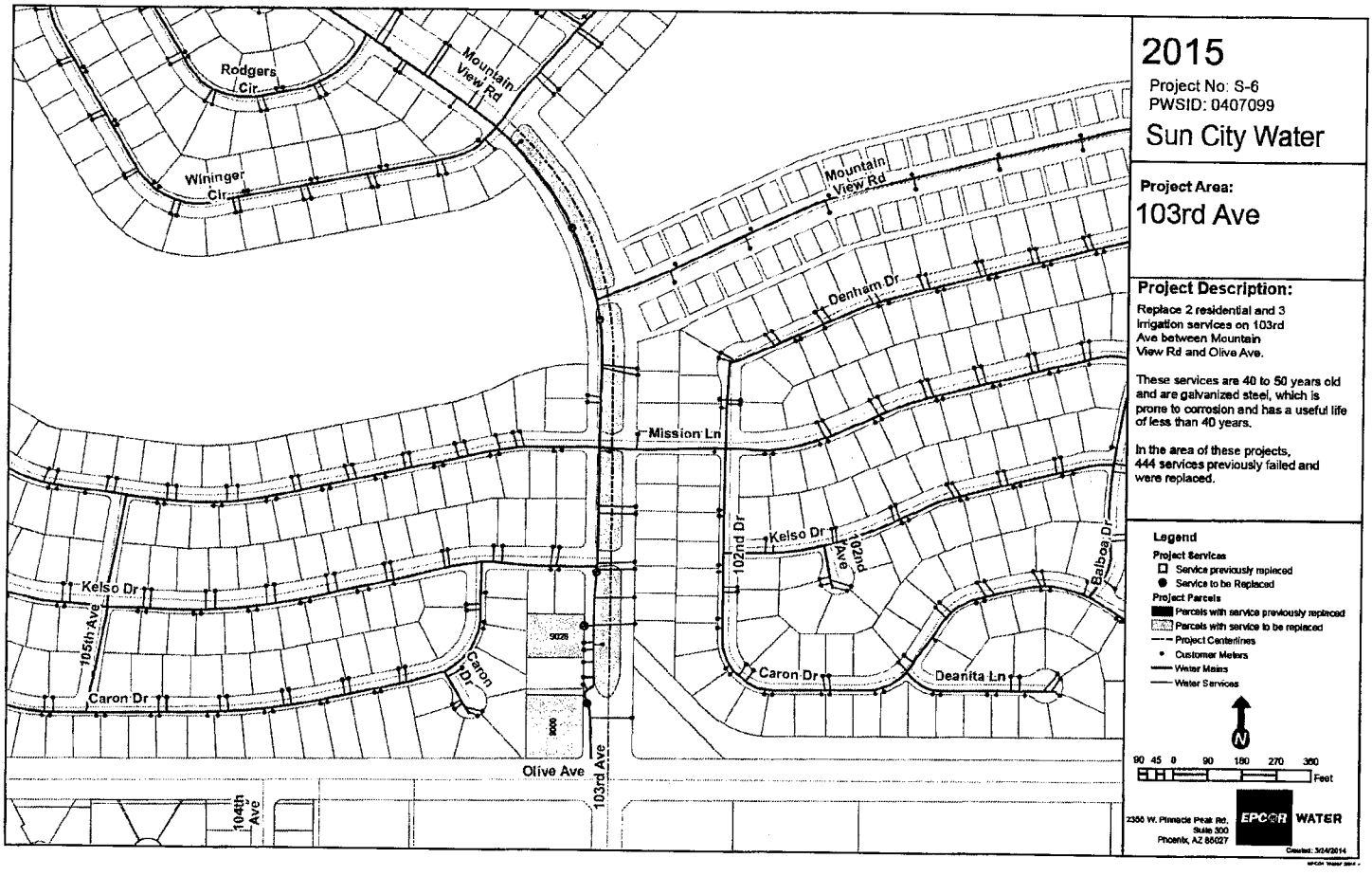
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2015 S-5**	Project Location: Cheryl Dr	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Cheryl Dr, Cinnabar Ave, Cumberland Dr, and Salem Dr between Mountain View Rd and 107th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
22	1.5" service	3560	Contractor material and labor to replace services	$ 78,320
22	hours	28	Company labor for field oversight and construction project management	$ 616
Subtotal				$ 78,936
General Overhead Rate on Labor and Capital (10%)				$ 7,894
Total Estimated Cost				**$ 86,830**



2015

Project No: S-6
PWSID: 0407099

Sun City Water

Project Area:

103rd Ave

Project Description:

Replace 2 residential and 3 irrigation services on 103rd Ave between Mountain View Rd and Olive Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

90 45 0 90 180 270 360 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

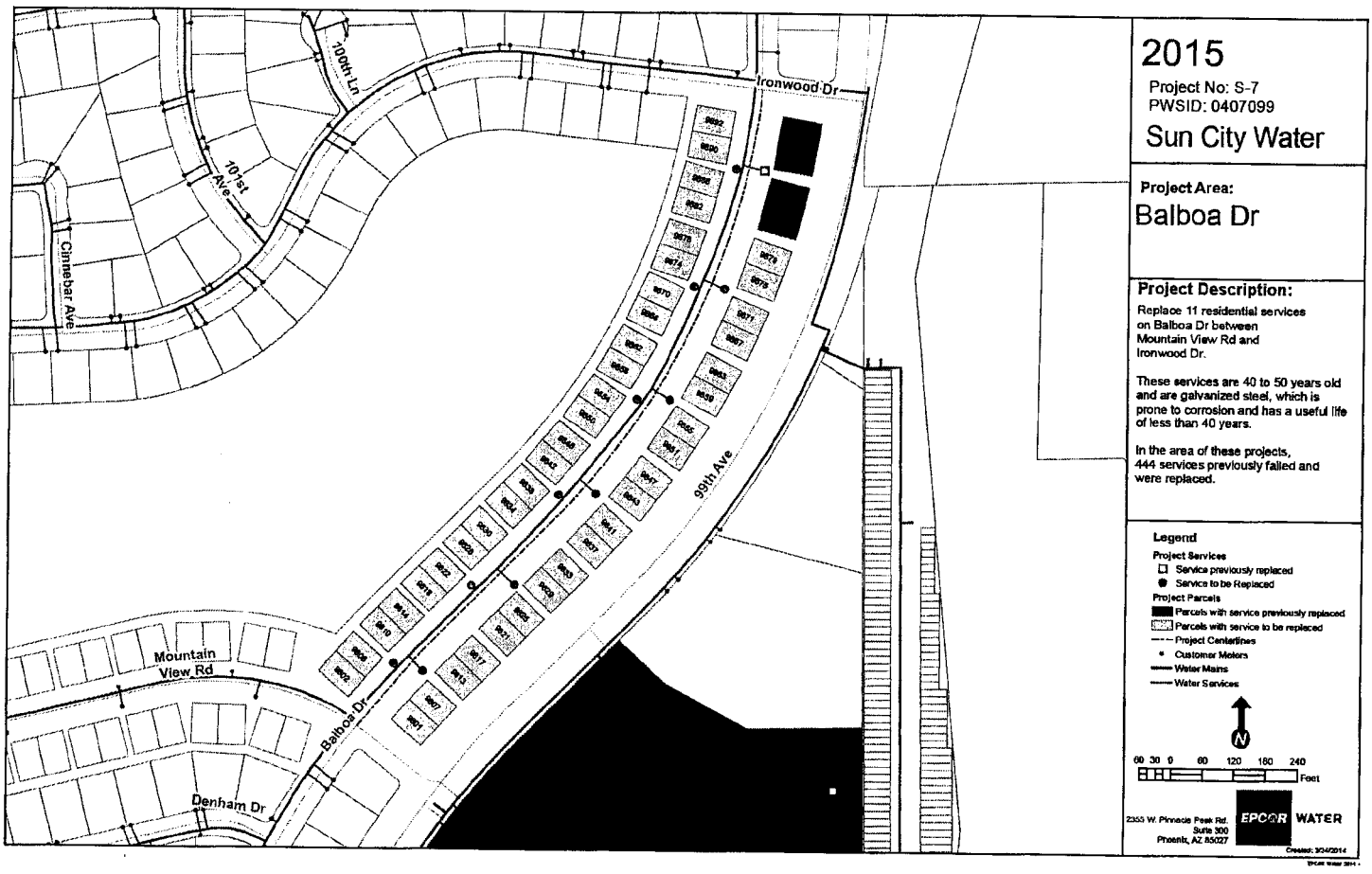
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2015 S-6**	103rd Ave

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on 103rd Ave between Mountain View Rd and Olive Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	1.5" service	3560	Contractor material and labor to replace services	$ 17,800
5	hours	28	Company labor for field oversight and construction project management	$ 140
Subtotal				$ 17,940
General Overhead Rate on Labor and Capital (10%)				$ 1,794
Total Estimated Cost				**$ 19,734**



2015

Project No: S-7
PWSID: 0407099

Sun City Water

Project Area:

Balboa Dr

Project Description:

Replace 11 residential services on Balboa Dr between Mountain View Rd and Ironwood Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

60 30 0 60 120 180 240
Feet

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

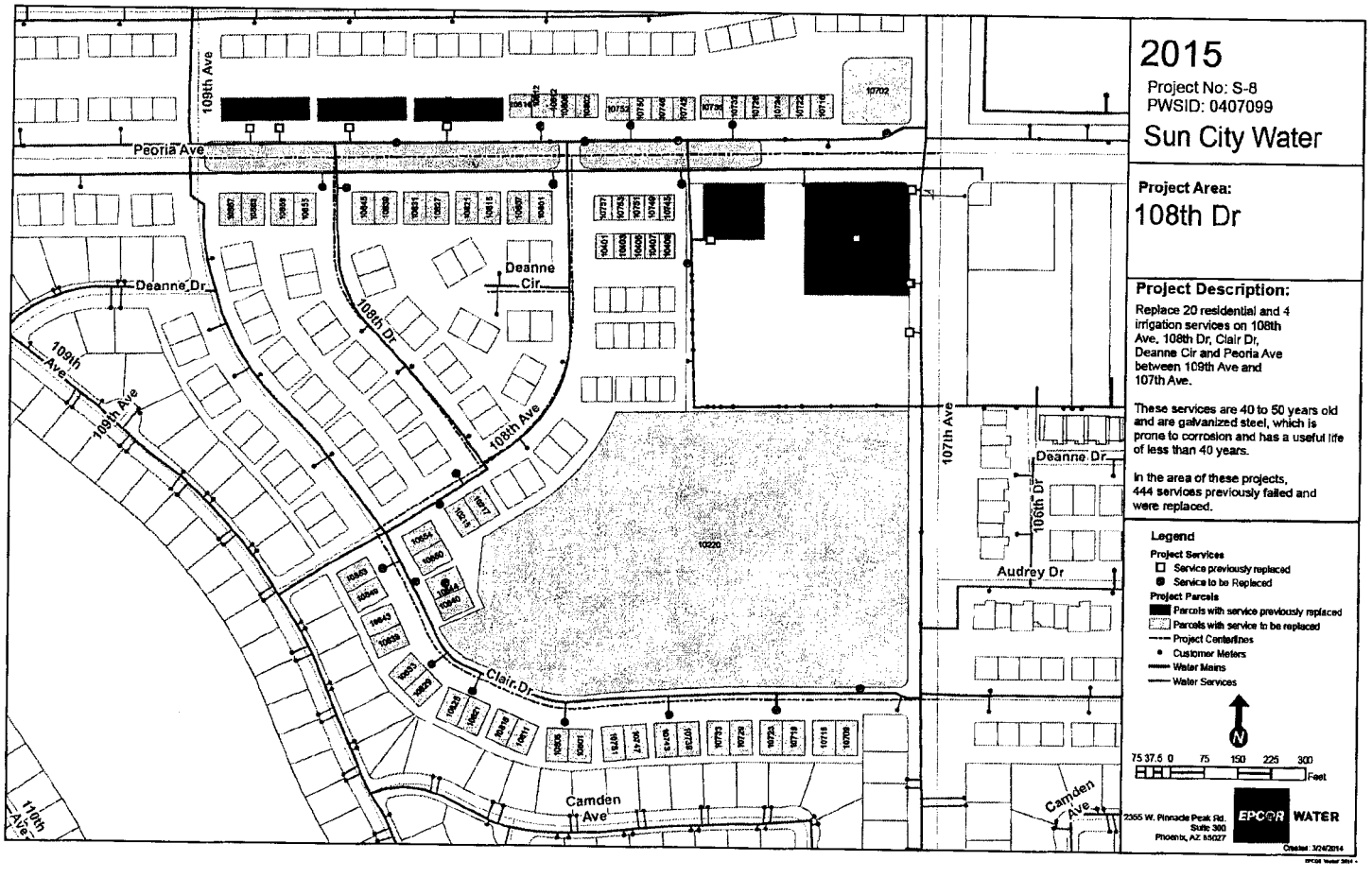
EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2015 S-7**	Project Location: Balboa Dr	
Project Description: Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on Balboa Dr between Mountain View Rd and Ironwood Dr.)				

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
11	1.5" service	3560	Contractor material and labor to replace services	$ 39,160
11	hours	28	Company labor for field oversight and construction project management	$ 308
Subtotal				$ 39,468
General Overhead Rate on Labor and Capital (10%)				$ 3,947
Total Estimated Cost				$ **43,415**


2015
Project No: S-8
PWSID: 0407099
Sun City Water
Project Area:
108th Dr
Project Description:
Replace 20 residential and 4 irrigation services on 108th Ave, 108th Dr, Clair Dr, Deanne Cir and Peoria Ave between 109th Ave and 107th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014
Peoria Ave
109th Ave
Deanne Dr
Deanne Cir
108th Dr
109th Ave
108th Ave
107th Ave
106th Dr
Audrey Dr
Clair Dr
Camden Ave
119th Ave
10702
10220

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

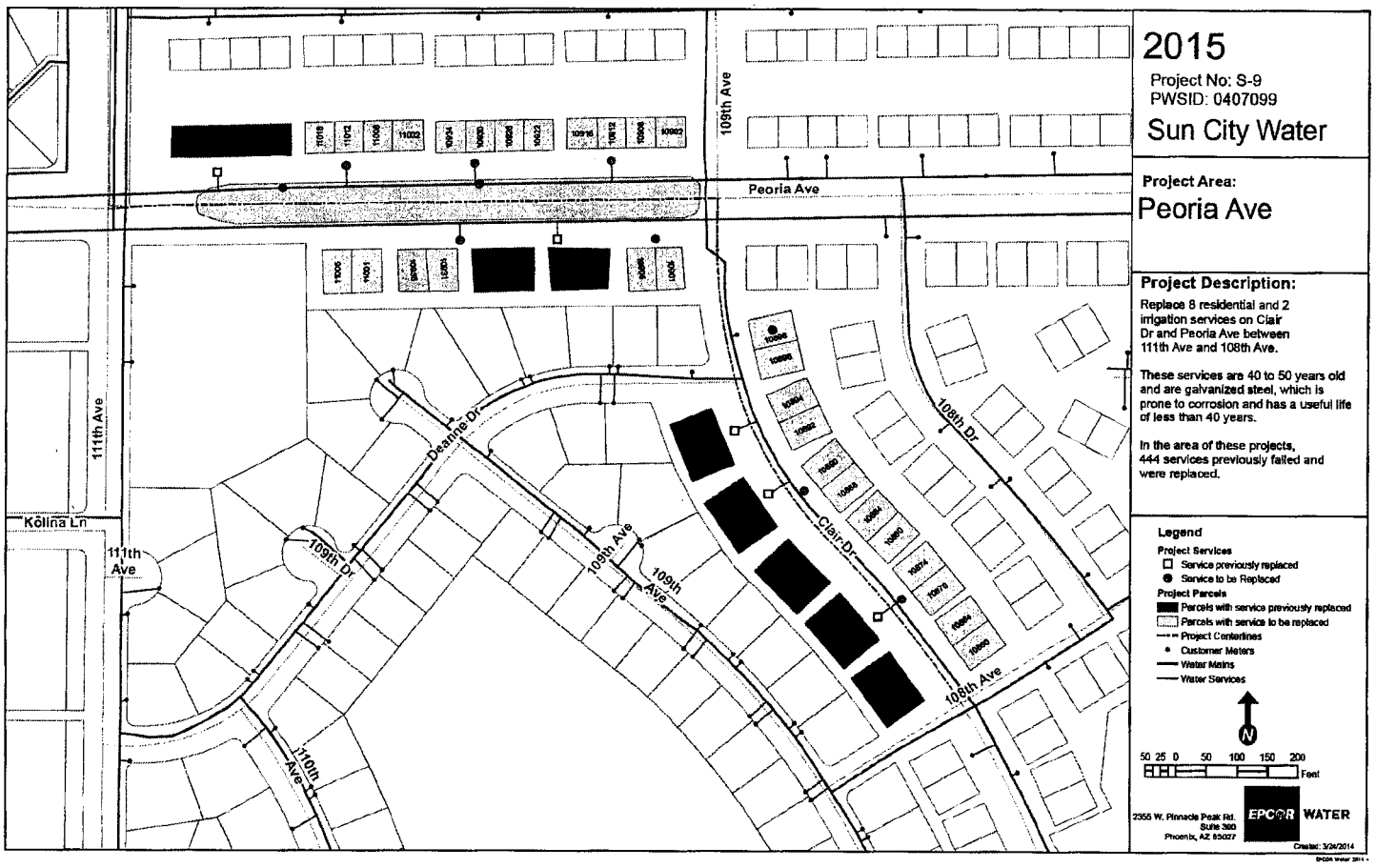
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2015 S-8**	108th Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (24 total on 108th Ave, 108th Dr, Clair Dr, Deanne Cir and Peoria Ave between 109th Ave and 107th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
24	1.5" service	3560	Contractor material and labor to replace services	$ 85,440
24	hours	28	Company labor for field oversight and construction project management	$ 672
Subtotal				$ 86,112
General Overhead Rate on Labor and Capital (10%)				$ 8,611
Total Estimated Cost				**$ 94,723**


2015
Project No: S-9
PWSID: 0407099
Sun City Water
Project Area:
Peoria Ave
Project Description:
Replace 8 residential and 2 irrigation services on Clair Dr and Peoria Ave between 111th Ave and 108th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
50 25 0 50 100 150 200
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014
Peoria Ave
109th Ave
111th Ave
Kolina Ln
Deanne Dr
109th Dr
109th Ave
110th Ave
Clair Dr
108th Dr
108th Ave

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2015 S-9**	Project Location: Clair Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Clair Dr and Peoria Ave between 111th Ave and 108th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
10	1.5" service	3560	Contractor material and labor to replace services	$ 35,600
10	hours	28	Company labor for field oversight and construction project management	$ 280
Subtotal				$ 35,880
General Overhead Rate on Labor and Capital (10%)				$ 3,588
Total Estimated Cost				$ **39,468**

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 1-2

2017 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-10	333	service lines	11	2-1" 40-1.5"	Copper	1"-$3,881 1.5"-$3.947	105th Dr	12/2017	n/a	$43,415	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on 105th Ave, 105th Dr, 106th Ave, 106th Dr. Audrey Dr, Clair Dr and Deanne Dr between 107th Ave and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section I narrative and Map No. S-10 in Exhibit CC-1-B for more detail.
S-11	333	service lines	25	1"	Copper	1"-$3,881	Audrey Dr	12/2017	n/a	$98,670	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (25 total on Audrey Dr, Clair Dr, Corte Del Sol Este, Corte Del Sol Oeste, Deanne Dr and Peoria Ave between 105th Ave and 103 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer

											pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-11 in Exhibit CC-1-B for more detail.
S-12	333	service lines	22	14-1.5" 4-2"	Copper	1.5"-$3,947 2"-$4,013	Caron Dr	12/2017	n/a	$86,830	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Tonada Dr, Caron Dr, Kelso Dr and109th Dr between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-12 in Exhibit CC-1-B for more detail.
S-13	333	service lines	14	11-1.5" 3-2"	Copper	1.5"-$3,947 2"-$4,013	Mountain View Rd West	12/2017	n/a	$55,453	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on 105th Ave, 105th Dr, 107th Ave, Mountain View Rd, Rodgers Cir and Winninger Cir between 107th and 103rd Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-13 in Exhibit CC-1-B for more detail.
S-14	333	service lines	14	1.5"	Copper	$3,947	Mountain View Rd East	12/2017	n/a	$55,255	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Mountain View Rd between 103rd Ave and Balboa Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-14 in Exhibit CC-1-B for more detail.

S-15	333	service lines	4	1.5"	Copper	$3,947	Peoria Ave and 103rd Ave	12/2017	n/a	$15,787	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (4 total on Peoria Ave between 103th Ave and 99 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-15 in Exhibit CC-1-B for more detail.
S-16	333	service lines	8	1.5"	Copper	$3,947	Abbott Ave West	12/2017	n/a	$31,574	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on Abbott Ave between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-16 in Exhibit CC-1-B for more detail.
S-17	333	service lines	14	1.5"	Copper	$3,947	Abbott Ave East	12/2017	n/a	$52,255	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Abbott Ave and 107th Ave between 109th Ave and 107th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-17 in Exhibit CC-1-B for more detail.
S-18	333	service lines	3	2-1.5" 1-3"	Copper	1.5"-$3,947 3"-$4,145	Peoria Ave and 105th Ave	12/2017	n/a	$12,038	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (3 total on Peoria Ave and 105th Ave between 107th Ave and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-18 in Exhibit CC-1-B for more detail.

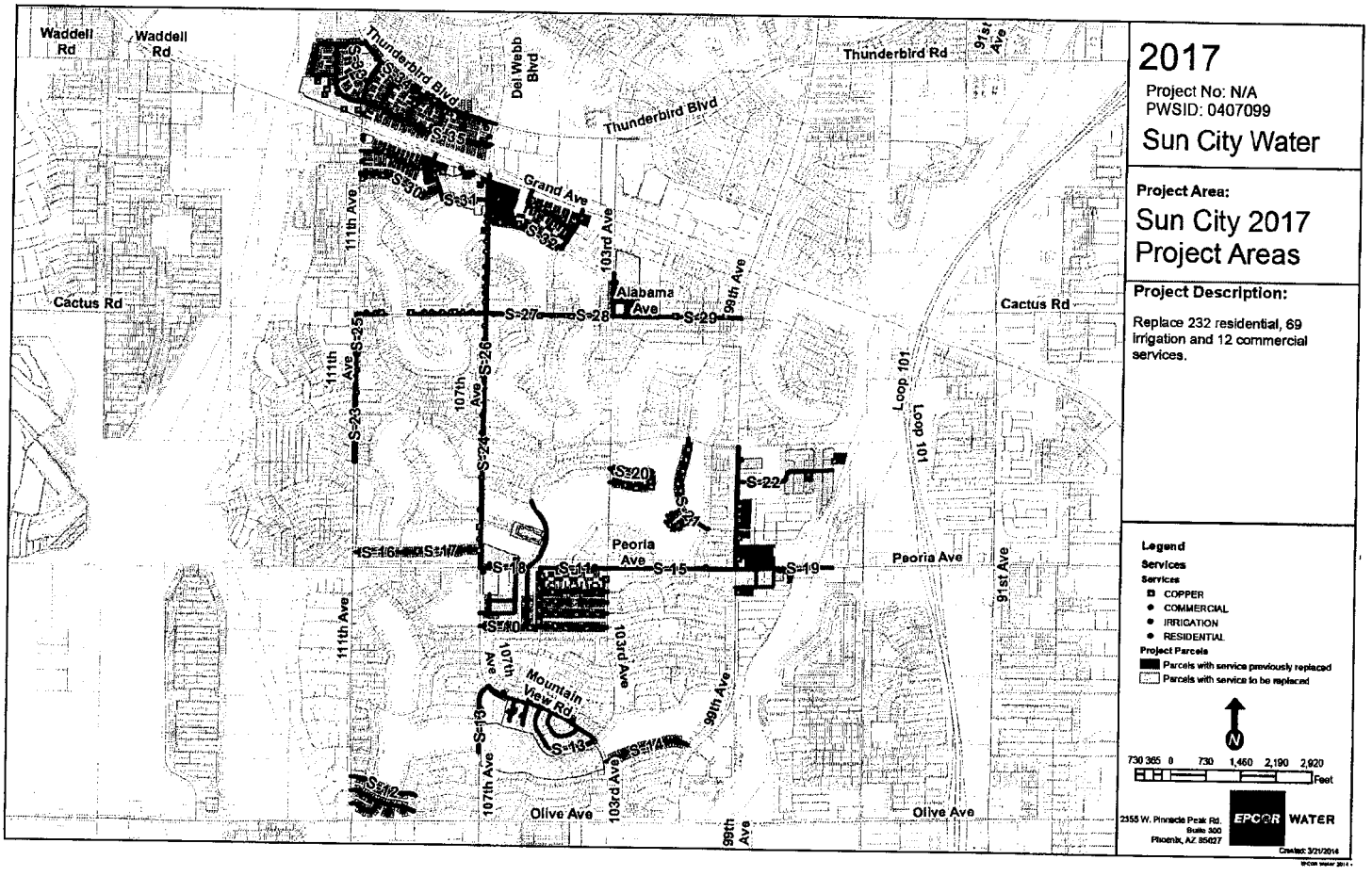
S-19	333	service lines	1	1.5"	Copper	$3,947	Peoria Ave and 99th Ave	12/2017	n/a	$3,947	Replace aging service with copper service line to reduce water leaks and emergency repairs. (1 total on Peoria Ave between 99th Ave and 96th Ave.) This service is a priority because it was installed 40 to 50 years ago. Replacing the service will help reduce system water loss and improve customer pressure and flow. The service line replacement is for existing customers and not related to new growth. See Section 1 narrative and Map No. S-19 in Exhibit CC-1-B for more detail.
S-20	333	service lines	3	1.5"	Copper	$3,947	Snead Circle	12/2017	n/a	$11,840	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (3 total on Sneed Circle west of 103 Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-20 in Exhibit CC-1-B for more detail.
S-21	333	service lines	10	1.5"	Copper	$3,947	Coggins Dr	12/2017	n/a	$39,468	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Coggins Dr and Lakeview Cir between Sun City Blvd and Balboa Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-21 in Exhibit CC-1-B for more detail..
S-22	333	service lines	1	1.5"	Copper	$3,947	99th Ave	12/2017	n/a	$4,145	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on 99th Ave between Sun City Blvd and Peoria Ave.) This service is a priority because it was installed 40 to 50 years ago. Replacing the service will help reduce system water loss and improve customer pressure and flow. The service line replacement is for existing customers and not related to new growth. See Section 1 narrative and Map No. S-22 in Exhibit CC-1-B for more detail.
S-23	333	service lines	4	1.5"	Copper	$3,947	111th Ave South	12/2017	n/a	$15,787	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (4 total on 111th Ave between Elk Ave and Iowa Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer

											pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-23 in Exhibit CC-1-B for more detail.
S-24	333	service lines	8	1.5"	Copper	$3,947	107th Ave South	12/2017	n/a	$31,574	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 107th Ave between Connecticut Ave and Elk Ave and Hope Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-24 in Exhibit CC-1-B for more detail.
S-25	333	service lines	5	1.5"	Copper	$3,947	111th Ave North	12/2017	n/a	$19,734	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on 111th Ave and Alabama Ave between Elk Ave and Cherry Hills Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-25 in Exhibit CC-1-B for more detail.
S-26	333	service lines	12	1.5"	Copper	$3,947	107th Ave North	12/2017	n/a	$47,362	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (12 total on 107th Ave and Alabama Ave between Pebble Beach Dr and Connecticut Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-26 in Exhibit CC-1-B for more detail.

S-27	333	service lines	8	1.5"	Copper	$3,947	Alabama Ave and 107th Ave	12/2017	n/a	$31,574	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 107th Ave and Alabama Ave between Cherry Hills Dr and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-27 in Exhibit CC-1-B for more detail.
S-28	333	service lines	10	1.5"	Copper	$3,947	Alabama Ave at Thunderbird	12/2017	n/a	$39,468	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Alabama Ave and 103th Ave between 105th Ave and Oakmont Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-28 in Exhibit CC-1-B for more detail.
S-29	333	service lines	7	1.5"	Copper	$3,947	Alabama Ave at Coggins	12/2017	n/a	$27,628	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (7 total on Alabama Ave between 103rd Ave and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-29 in Exhibit CC-1-B for more detail.
S-30	333	service lines	27	14-1.5" 13-2"	Copper	1.5"-$3,947 2"-$4,013	Coggins Dr	12/2017	n/a	$107,422	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (27 total on Coggins Dr and Windsor Dr between 111th Ave and 108th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-30 in Exhibit CC-1-B for more detail.

S-31	333	service lines	10	8-1.5" 2-2"	Copper	1.5"-$3,947 2"-$4,013	Oakmont Dr West	12/2017	n/a	$39,600	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Oakmont Dr, 107th Ave and 108th Ave between Grand Ave and Cherry Hills Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-31 in Exhibit CC-1-B for more detail.
S-32	333	service lines	14	6-1.5" 8-2"	Copper	1.5"-$3,947 2"-$4,013	Oakmont Dr East	12/2017	n/a	$55,783	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on 105th Ave, Coggins Dr and Oakmont Dr between 107th Ave and 105th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-32 in Exhibit CC-1-B for more detail.
S-33	333	service lines	21	5-1.5" 16-2"	Copper	1.5"-$3,947 2"-$4,013	Newcastle Dr	12/2017	n/a	$83,939	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (21 total on Emerald Dr, Garden Court , Newcastle Dr, Silverbell Dr and Thunderbird Blvd between Emerald Dr and 111th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-33 in Exhibit CC-1-B for more detail.
S-34	333	service lines	25	4-1.5" 20-2" 1-2.5"	Copper	1.5"-$3,947 2"-$4,013 2.5"-$4,079	Santa Fe Dr West	12/2017	n/a	$100,122	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (25 total on 109th Ave, 110th Ave, 111th Ave, Santa Fe Dr and Thunderbird Blvd between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-34 in Exhibit CC-1-B for

											more detail.
S-35	333	service lines	32	10-1.5" 22-2"	Copper	1.5"-$3,947 2"-$4,013	Santa Fe Dr East	12/2017	n/a	$127,750	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (32 total on 108th Ave, 108th Dr, Santa Fe Dr and Thunderbird Blvd between 109th Ave and Del Webb Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-35 in Exhibit CC-1-B for more detail.
Total			313							$1,241,420	



2017

Project No: N/A
PWSID: 0407099

Sun City Water

Project Area:

Sun City 2017 Project Areas

Project Description:

Replace 232 residential, 69 irrigation and 12 commercial services.

Legend

Services

Services

- COPPER
- COMMERCIAL
- IRRIGATION
- RESIDENTIAL

Project Parcels

- Parcels with service previously replaced
- Parcels with service to be replaced

N

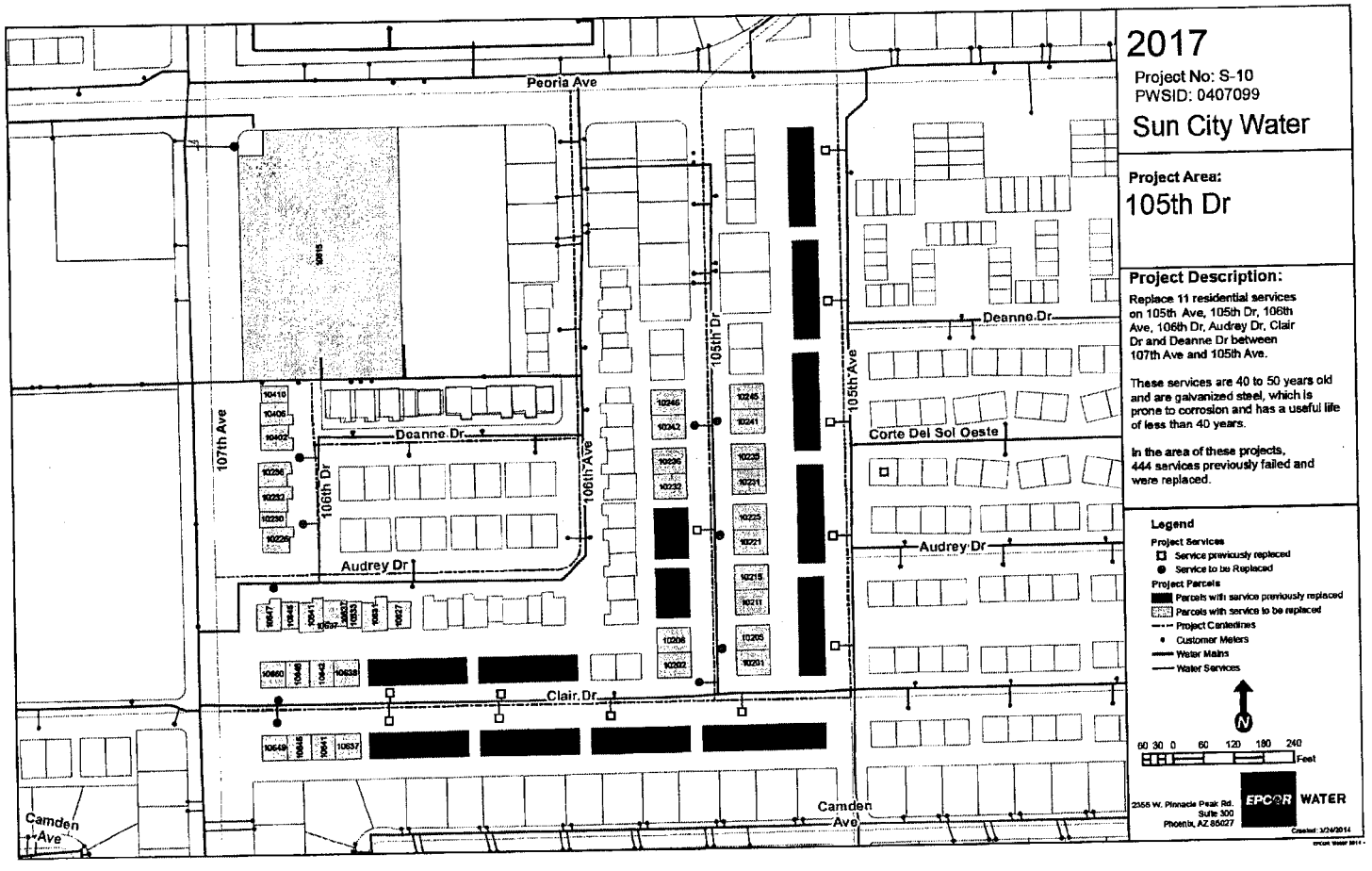
730 365 0 730 1,460 2,190 2,920 Feet

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

EPCOR WATER

Created: 3/21/2014

EPCOR WATER 2014

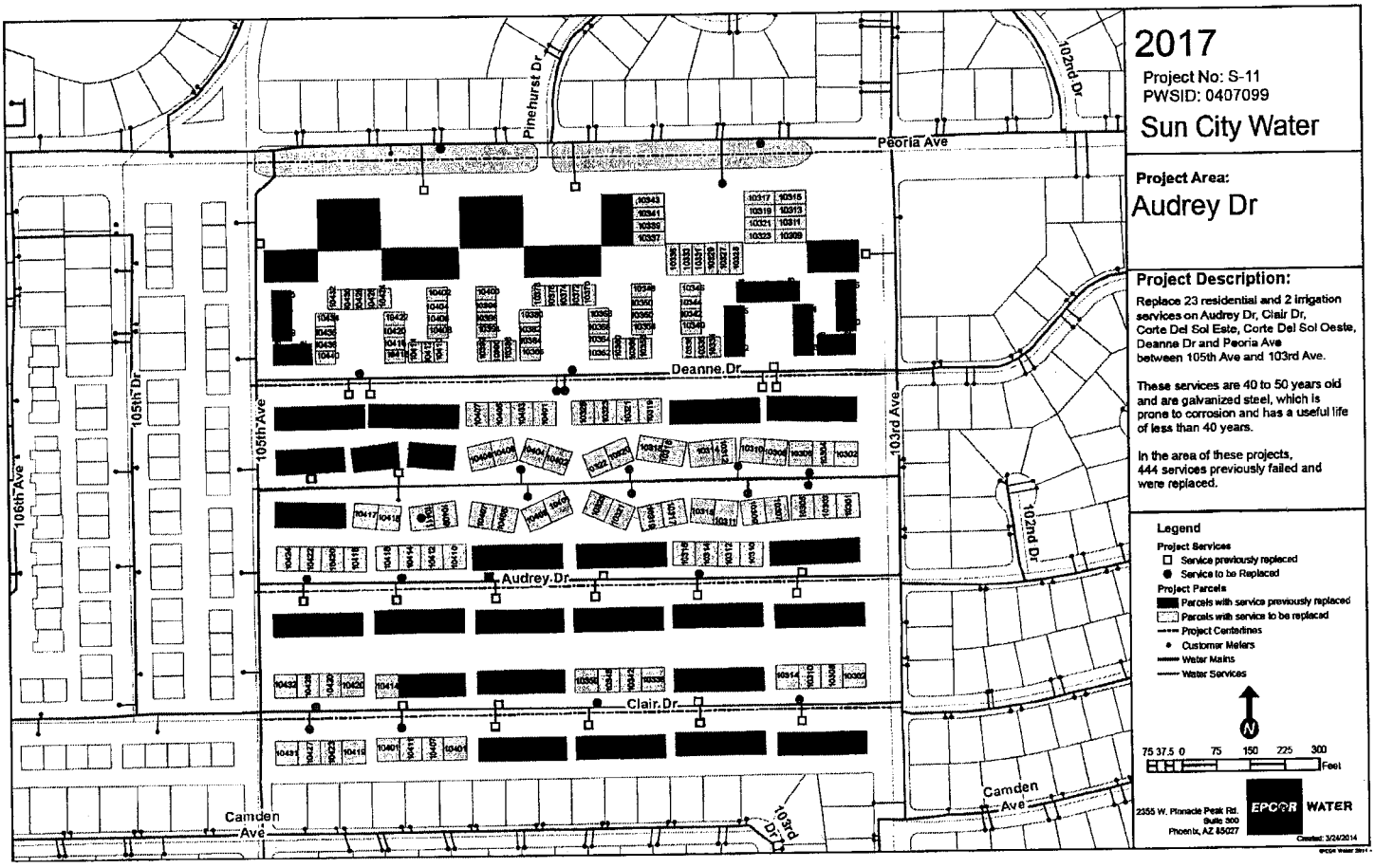

Peoria Ave
Deanne Dr
Audrey Dr
Clair Dr
Camden Ave
107th Ave
106th Dr
106th Ave
105th Dr
105th Ave
Corte Del Sol Oeste
2017
Project No: S-10
PWSID: 0407099
Sun City Water
Project Area:
105th Dr
Project Description:
Replace 11 residential services on 105th Ave, 105th Dr, 106th Ave, 106th Dr, Audrey Dr, Clair Dr and Deanne Dr between 107th Ave and 105th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
60 30 0 60 120 180 240
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-10**	Project Location: 105th Dr

Project Description:
Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on 105th Ave, 105th Dr, 106th Ave, 106th Dr, Audrey Dr, Clair Dr and Deanne Dr between 107th Ave and 105th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
11	1.5" service	3560	Contractor material and labor to replace services	$ 39,160
11	hours	28	Company labor for field oversight and construction project management	$ 308
Subtotal				$ 39,468
General Overhead Rate on Labor and Capital (10%)				$ 3,947
Total Estimated Cost				**$ 43,415**



2017

Project No: S-11
PWSID: 0407099

Sun City Water

Project Area:

Audrey Dr

Project Description:

Replace 23 residential and 2 irrigation services on Audrey Dr, Clair Dr, Corte Del Sol Este, Corte Del Sol Oeste, Deanne Dr and Peoria Ave between 105th Ave and 103rd Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

75 37.5 0 75 150 225 300 Feet

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

EPCOR WATER

Created: 3/24/2014

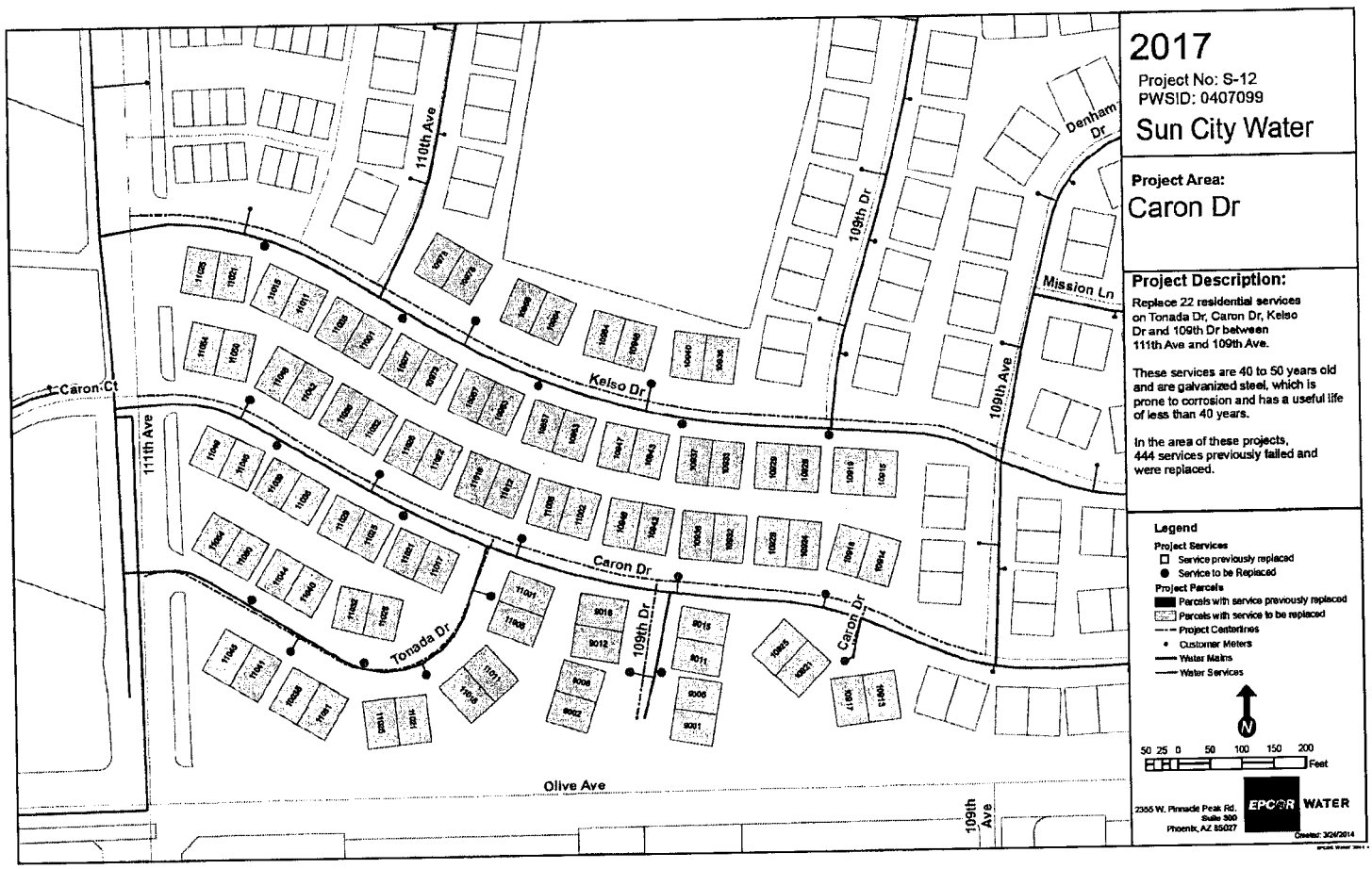
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-11**	Project Location: Audrey Dr	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (25 total on Audrey Dr, Clair Dr, Corte Del Sol Este, Corte Del Sol Oeste, Deanne Dr and Peoria Ave between 105th Ave and 103 Ave.

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
25	1.5" service	3560	Contractor material and labor to replace services	$ 89,000
25	hours	28	Company labor for field oversight and construction project management	$ 700
Subtotal				$ 89,700
General Overhead Rate on Labor and Capital (10%)				$ 8,970
Total Estimated Cost				**$ 98,670**


2017
Project No: S-12
PWSID: 0407099
Sun City Water
Project Area:
Caron Dr
Project Description:
Replace 22 residential services on Tonada Dr, Caron Dr, Kelso Dr and 109th Dr between 111th Ave and 109th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
50 25 0 50 100 150 200
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014
Caron Ct
111th Ave
110th Ave
109th Dr
Denham Dr
Mission Ln
109th Ave
Kelso Dr
Caron Dr
Tonada Dr
Olive Ave
109th Ave

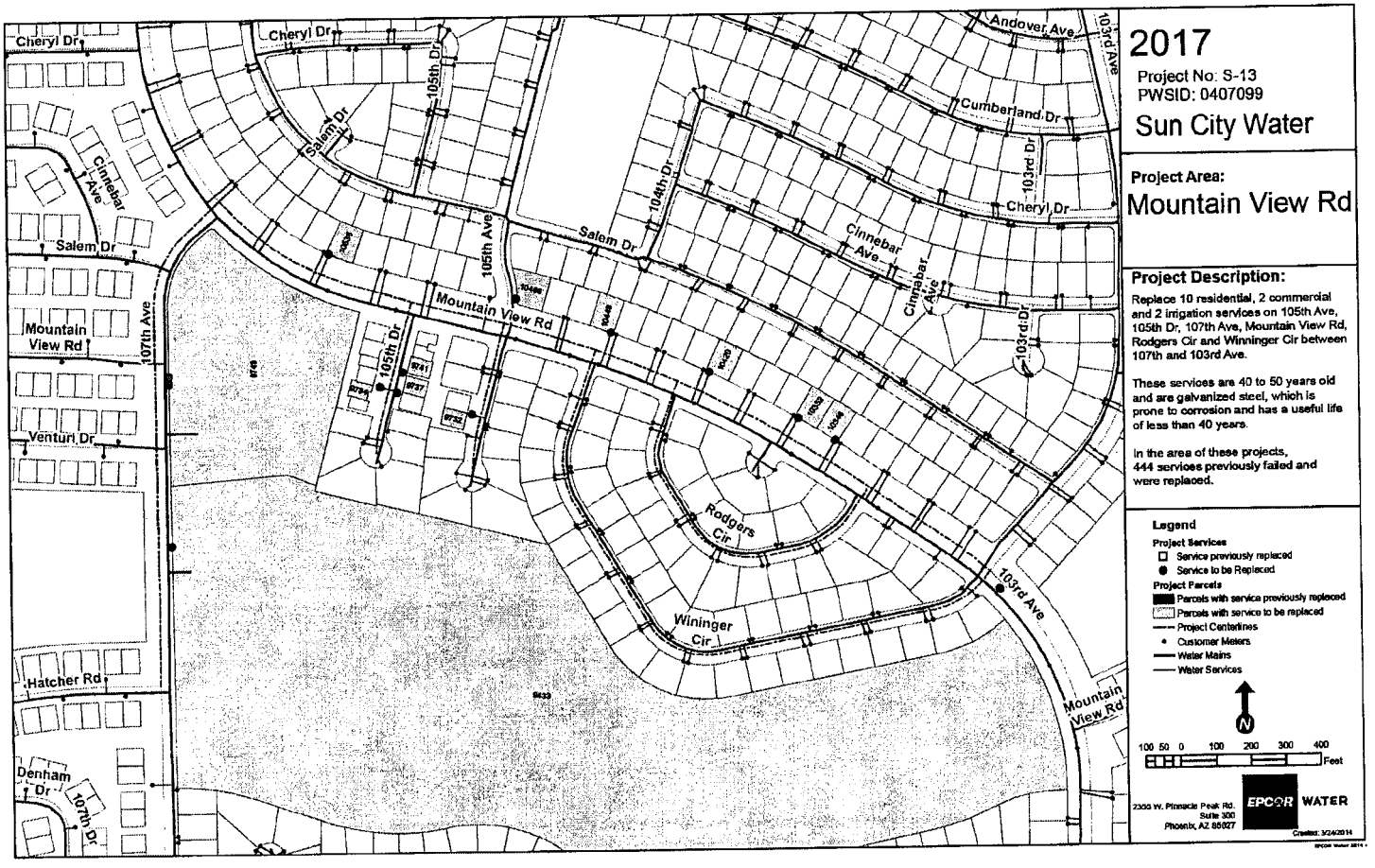
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-12**	Project Location: Caron Dr	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Tonada Dr, Caron Dr, Kelso Dr and109th Dr between 111th Ave and 109th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
22	1.5" service	3560	Contractor material and labor to replace services	$ 78,320
22	hours	28	Company labor for field oversight and construction project management	$ 616
Subtotal				$ 78,936
General Overhead Rate on Labor and Capital (10%)				$ 7,894
Total Estimated Cost				**$ 86,830**



2017

Project No: S-13
PWSID: 0407099

Sun City Water

Project Area:

Mountain View Rd

Project Description:

Replace 10 residential, 2 commercial and 2 irrigation services on 105th Ave, 105th Dr, 107th Ave, Mountain View Rd, Rodgers Cir and Winninger Cir between 107th and 103rd Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

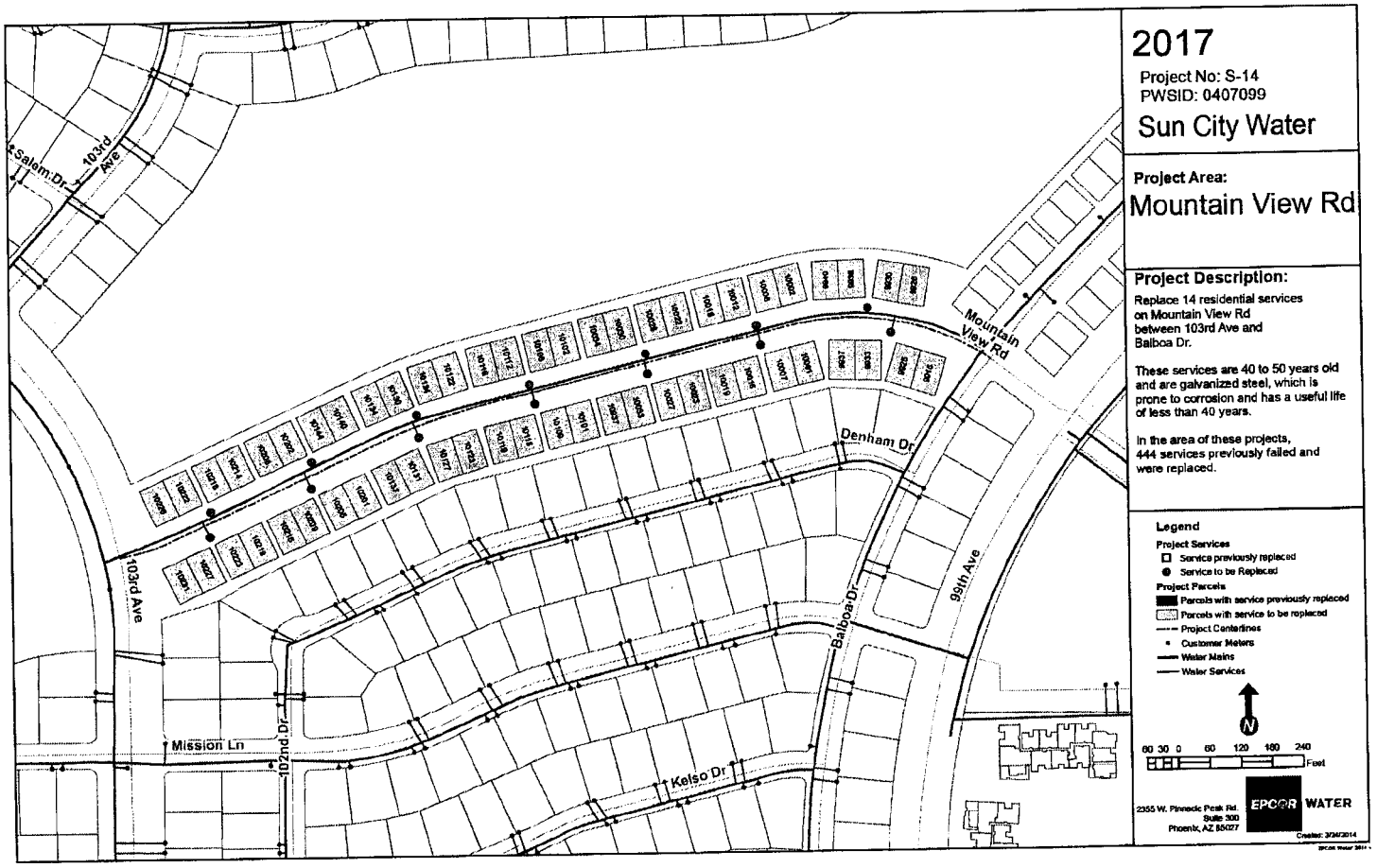
Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2017 S-13**	Mountain View Rd West

Project Description:
Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on 105th Ave, 105th Dr, 107th Ave, Mountain View Rd, Rodgers Cir and Winninger Cir between 107th and 103rd Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
11	1.5" service	3560	Contractor material and labor to replace services	$ 39,160
3	2" service	3620	Contractor material and labor to replace services	$ 10,860
14	hours	28	Company labor for field oversight and construction project management	$ 392
Subtotal				$ 50,412
General Overhead Rate on Labor and Capital (10%)				$ 5,041
Total Estimated Cost				**$ 55,453**



2017

Project No: S-14
PWSID: 0407099

Sun City Water

Project Area:

Mountain View Rd

Project Description:

Replace 14 residential services on Mountain View Rd between 103rd Ave and Balboa Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

60 30 0 60 120 180 240 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

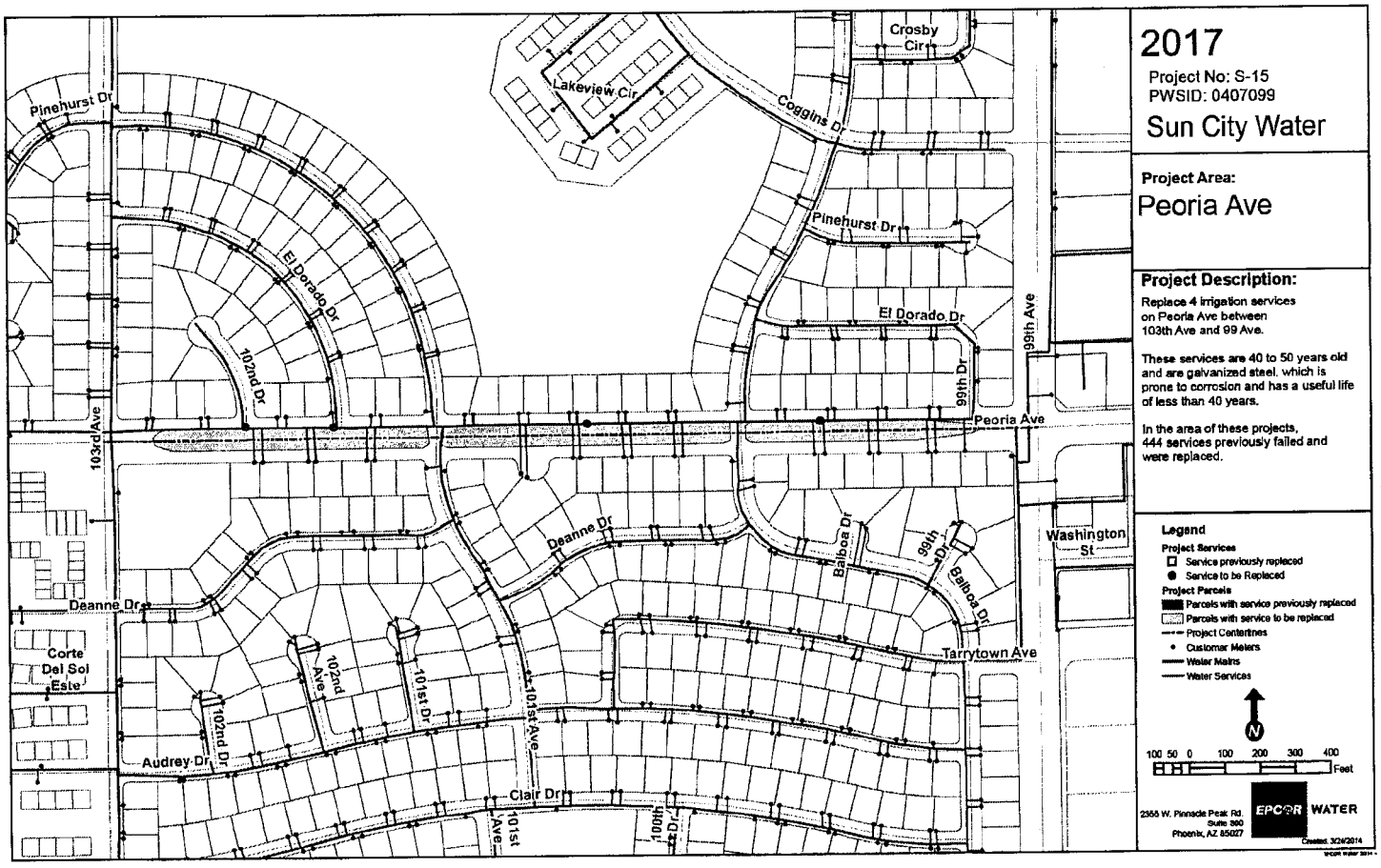
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2017 S-14**	Mountain View Rd East

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Mountain View Rd between 103rd Ave and Balboa Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
14	1.5" service	3560	Contractor material and labor to replace services	$ 49,840
14	hours	28	Company labor for field oversight and construction project management	$ 392
Subtotal				$ 50,232
General Overhead Rate on Labor and Capital (10%)				$ 5,023
Total Estimated Cost				**$ 55,255**



2017

Project No: S-15
PWSID: 0407099

Sun City Water

Project Area:

Peoria Ave

Project Description:

Replace 4 irrigation services on Peoria Ave between 103th Ave and 99 Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

100 50 0 100 200 300 400 Feet

2355 W. Pinnacle Peak Rd.
Suite 360
Phoenix, AZ 85027

EPCOR WATER

Created: 3/24/2014

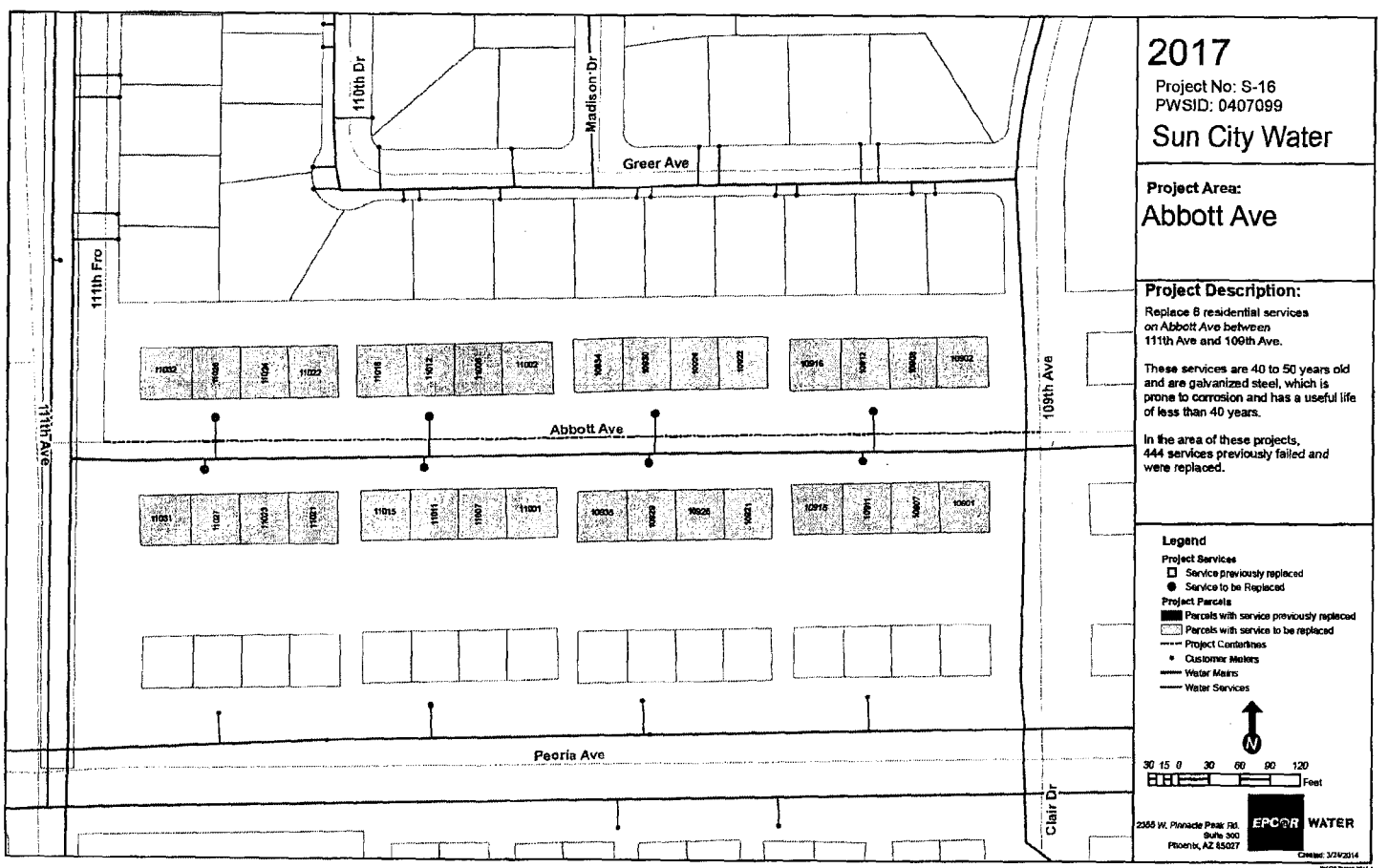
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-15**	Project Location: Peoria Ave and 103rd Ave

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (4 total on Peoria Ave between 103th Ave and 99 Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
4	1.5" service	3560	Contractor material and labor to replace services	$ 14,240
4	hours	28	Company labor for field oversight and construction project management	$ 112
Subtotal				$ 14,352
General Overhead Rate on Labor and Capital (10%)				$ 1,435
Total Estimated Cost				**$ 15,787**



2017

Project No: S-16
PWSID: 0407099

Sun City Water

Project Area:

Abbott Ave

Project Description:

Replace 8 residential services on Abbott Ave between 111th Ave and 109th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

30 15 0 30 60 90 120 Feet

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

EPCOR WATER

Created: 3/24/2014

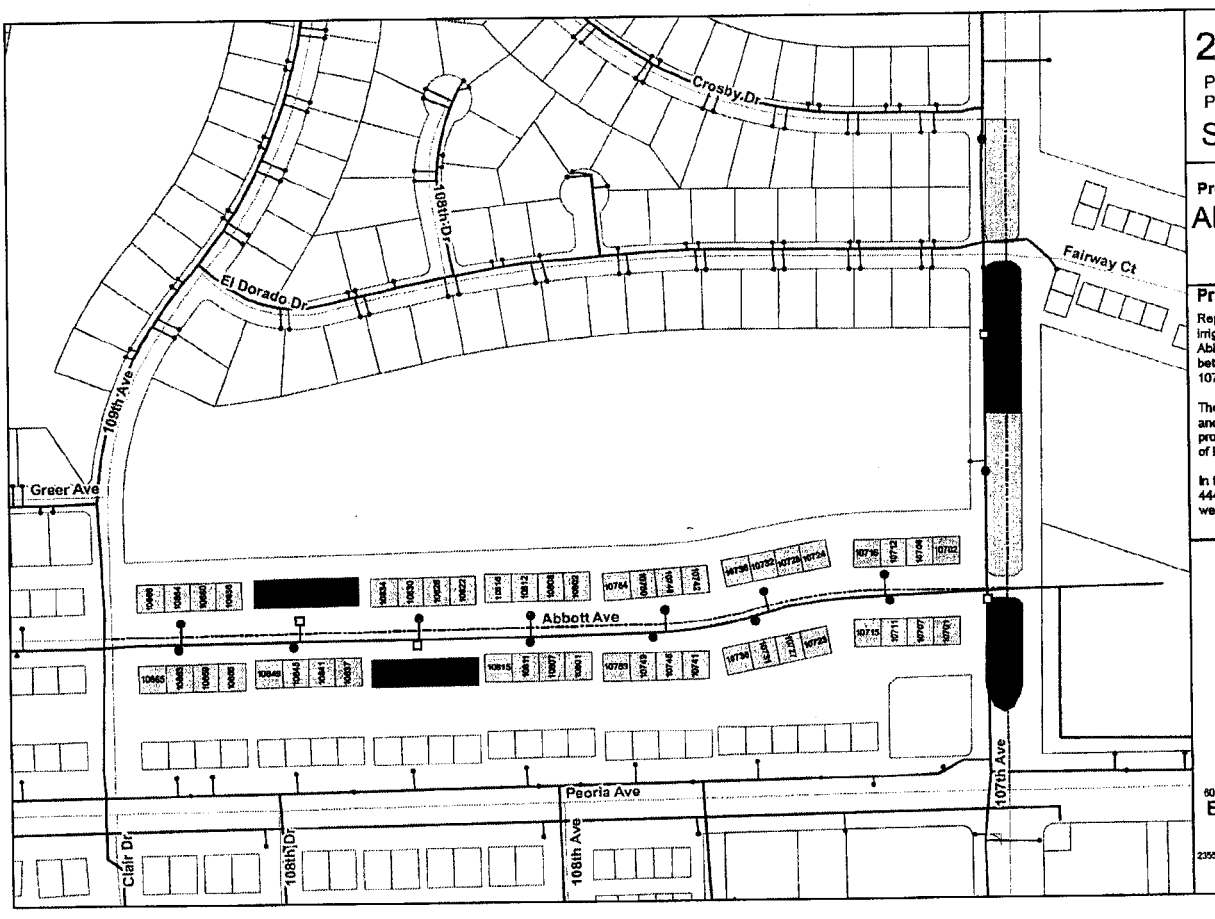
EPCOR Water **Preliminary Cost Estimate**			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-16**	Project Location: Abbott Ave West

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on Abbott Ave between 111th Ave and 109th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	1.5" service	3560	Contractor material and labor to replace services	$ 28,480
8	hours	28	Company labor for field oversight and construction project management	$ 224
Subtotal				$ 28,704
General Overhead Rate on Labor and Capital (10%)				$ 2,870
Total Estimated Cost				**$ 31,574**



2017

Project No: S-17
PWSID: 0407099

Sun City Water

Project Area:

Abbott Ave

Project Description:

Replace 12 residential and 2 irrigation services on Abbott Ave and 107th Ave between 109th Ave and 107th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

60 30 0 60 120 180 240 Feet

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

EPCOR WATER

Created: 3/24/2014

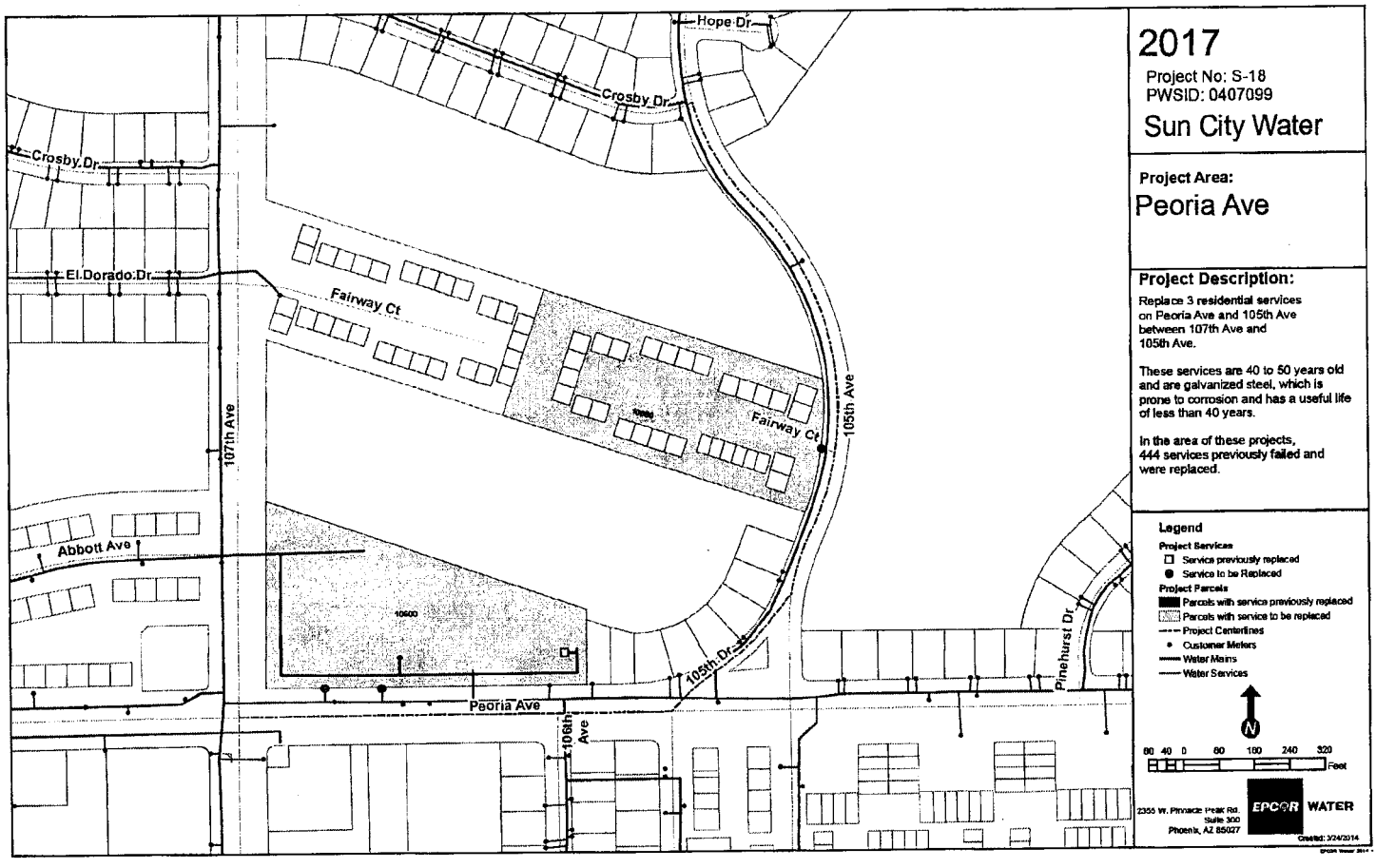
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-17**	Project Location: Abbott Ave East

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (12 total on Abbott Ave and 107th Ave between 109th Ave and 107th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
14	1.5" service	3560	Contractor material and labor to replace services	$ 49,840
14	hours	28	Company labor for field oversight and construction project management	$ 392
Subtotal				$ 50,232
General Overhead Rate on Labor and Capital (10%)				$ 5,023
Total Estimated Cost				**$ 55,255**



2017

Project No: S-18
PWSID: 0407099

Sun City Water

Project Area:

Peoria Ave

Project Description:

Replace 3 residential services on Peoria Ave and 105th Ave between 107th Ave and 105th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/24/2014

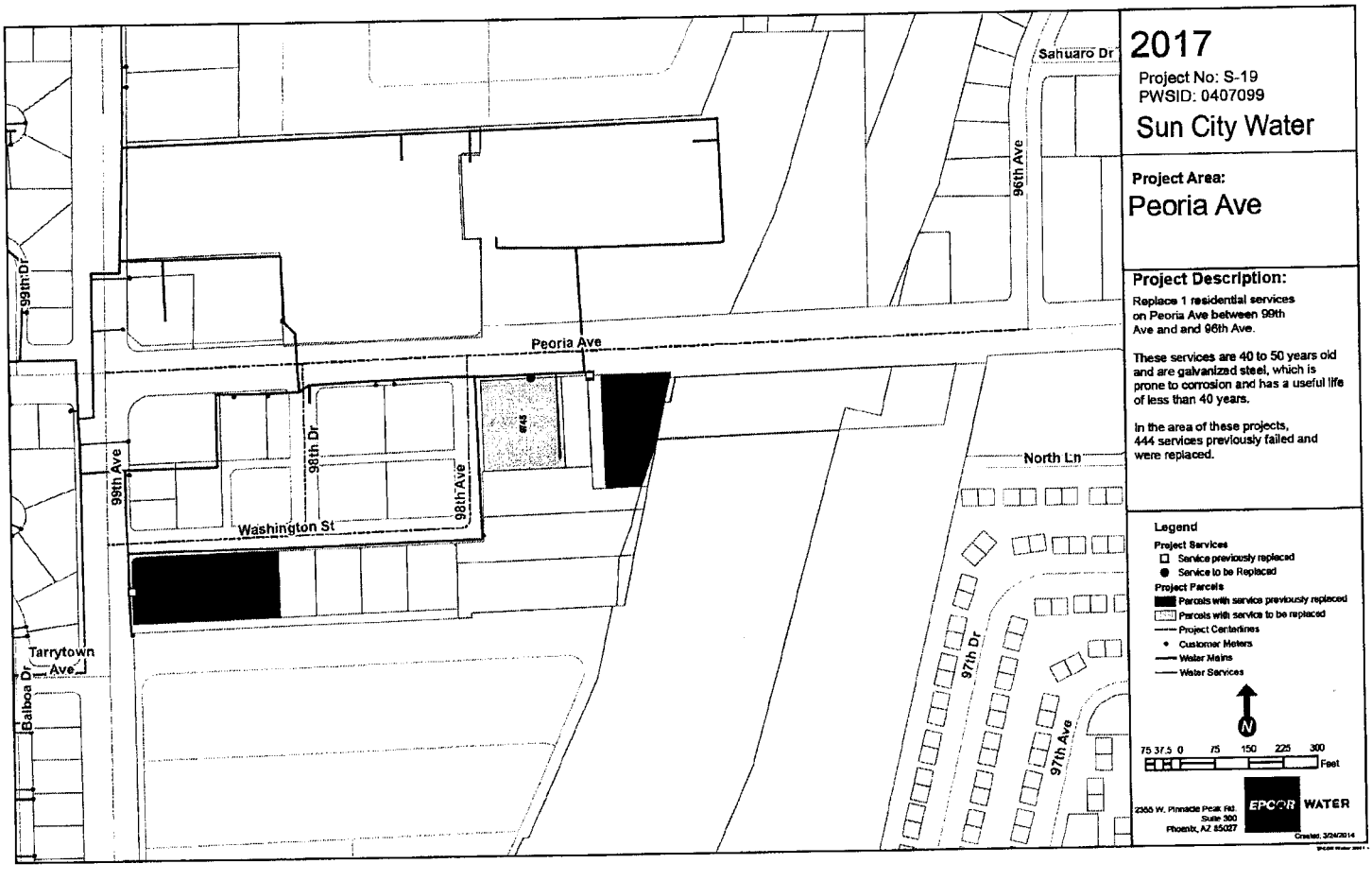
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-18**	Project Location: Peoria Ave and 105th Ave	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (3 total on Peoria Ave and 105th Ave between 107th Ave and 105th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2	1.5" service	3560	Contractor material and labor to replace services	$ 7,120
1	3" service	3740	Contractor material and labor to replace services	$ 3,740
3	hours	28	Company labor for field oversight and construction project management	$ 84
Subtotal				$ 10,944
General Overhead Rate on Labor and Capital (10%)				$ 1,094
Total Estimated Cost				**$ 12,038**


Sahuaro Dr
96th Ave
99th Dr
Peoria Ave
98th Dr
99th Ave
98th Ave
Washington St
North Ln
97th Dr
97th Ave
Tarrytown Ave
Balboa Dr
2017
Project No: S-19
PWSID: 0407099
Sun City Water
Project Area:
Peoria Ave
Project Description:
Replace 1 residential services on Peoria Ave between 99th Ave and and 96th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

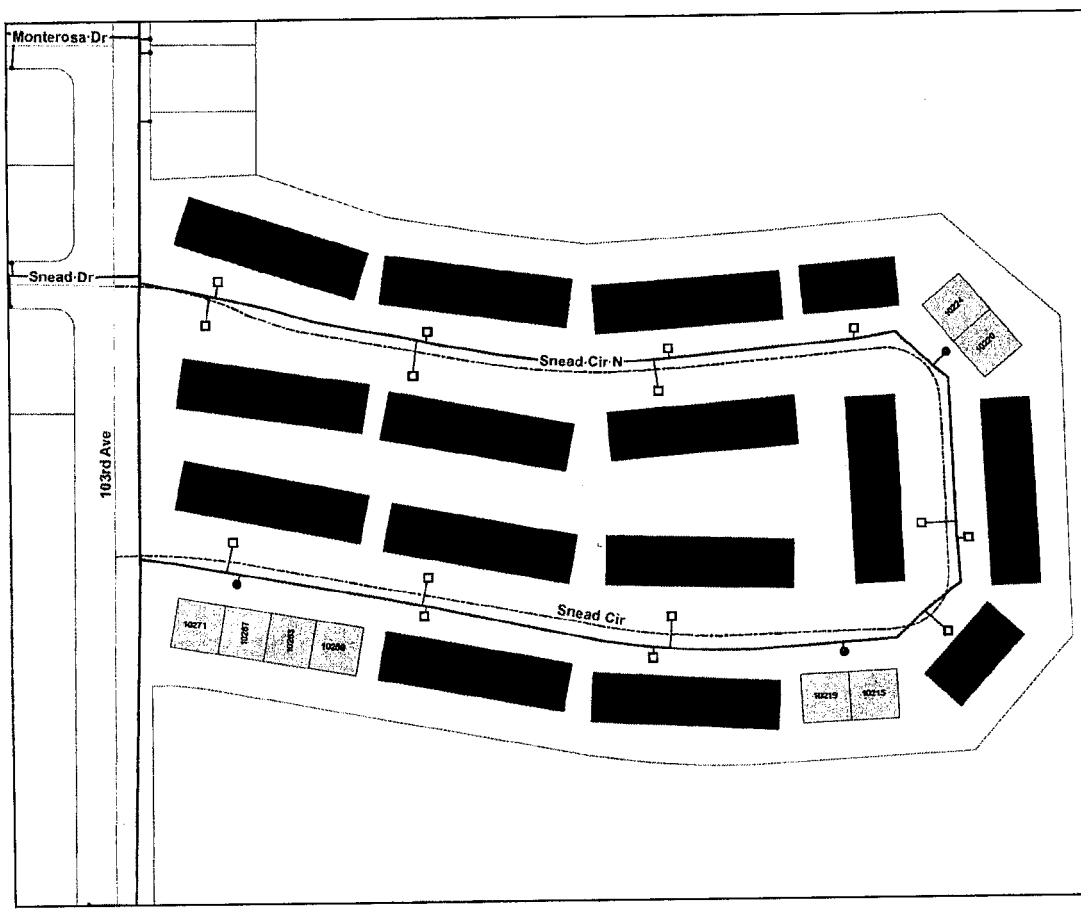
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-19**	Project Location: Peoria Ave and 99th Ave

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on Peoria Ave between 99th Ave and 96th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	1.5" service	3560	Contractor material and labor to replace services	$ 3,560
1	hours	28	Company labor for field oversight and construction project management	$ 28
Subtotal				$ 3,588
General Overhead Rate on Labor and Capital (10%)				$ 359
Total Estimated Cost				**$ 3,947**



2017

Project No: S-20
PWSID: 0407099

Sun City Water

Project Area:

Snead Circle

Project Description:

Replace 3 residential services on Snead Circle west of 103 Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

30 15 0 30 60 90 120 Feet

2365 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027

EPCOR WATER

Created: 3/24/2014

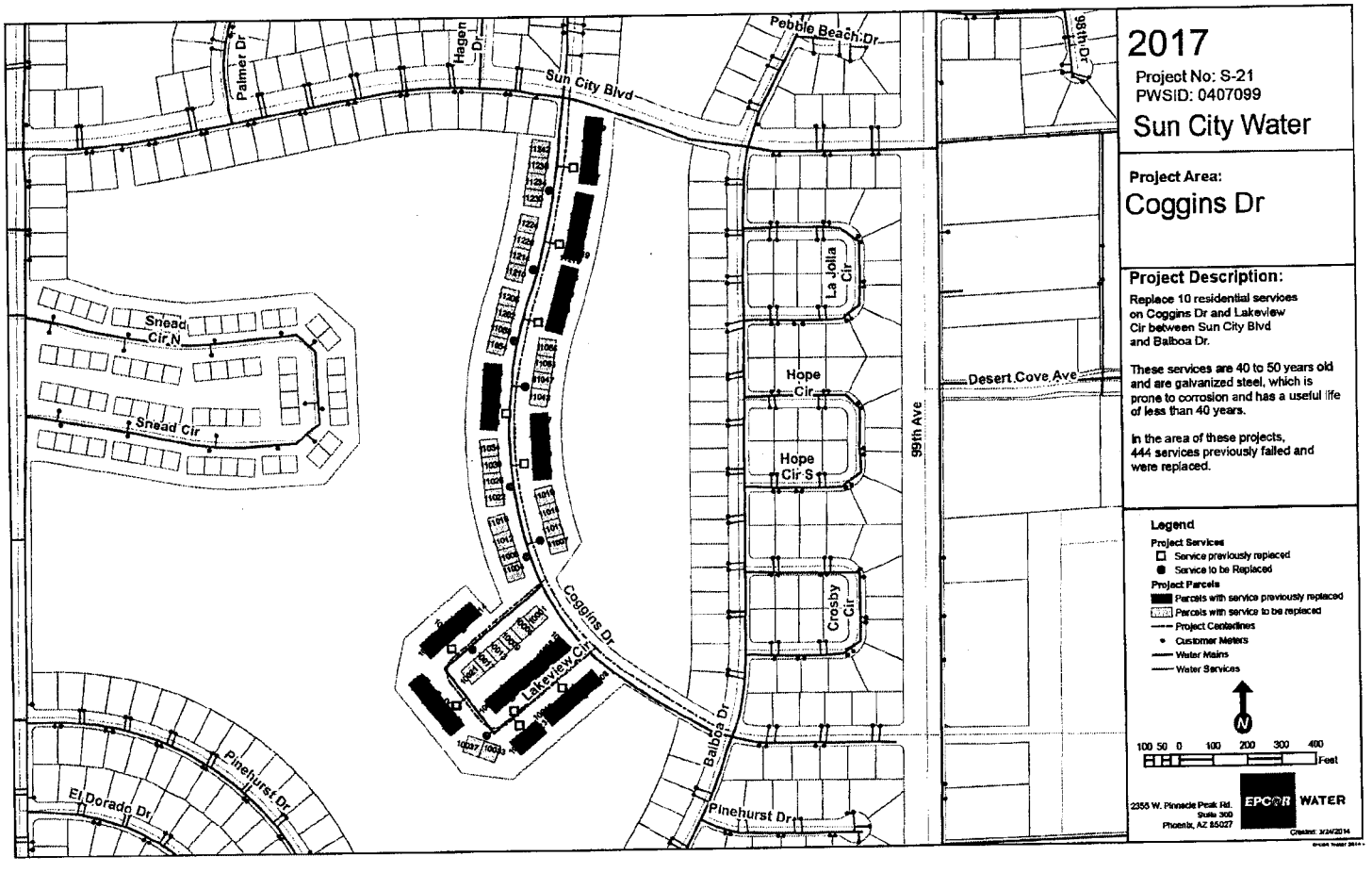
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-20**	Project Location: Snead Circle	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (3 total on Snead Circle west of 103 Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
3	1.5" service	3560	Contractor material and labor to replace services	$ 10,680
3	hours	28	Company labor for field oversight and construction project management	$ 84
Subtotal				$ 10,764
General Overhead Rate on Labor and Capital (10%)				$ 1,076
Total Estimated Cost				**$ 11,840**



2017

Project No: S-21
PWSID: 0407099

Sun City Water

Project Area:

Coggins Dr

Project Description:

Replace 10 residential services on Coggins Dr and Lakeview Cir between Sun City Blvd and Balboa Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-21**	Project Location: Coggins Dr	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Coggins Dr and Lakeview Cir between Sun City Blvd and Balboa Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
10	1.5" service	3560	Contractor material and labor to replace services	$ 35,600
10	hours	28	Company labor for field oversight and construction project management	$ 280
Subtotal				$ 35,880
General Overhead Rate on Labor and Capital (10%)				$ 3,588
Total Estimated Cost				**$ 39,468**

Coggins Dr
Sun City Blvd
La Jolla Cir
Hope Cir
Hope Cir S
Crosby Cir
Coggins Dr
Balboa Dr
Pinehurst Dr
El Dorado Dr
99th Dr
99th Ave
Illinois
Illinois
Alberta
Alberta
Alberta
Ohio
Iowa
Desert Cove Ave
Dakota
Michigan
Ohio
Wyoming
Iowa
Minnesota
Montana
98th Dr
98th Ave
Peoria Ave
96th Ave
Sahuaro Dr
95th Ave
North Ln
2017
Project No: S-22
PWSID: 0407099
Sun City Water
Project Area:
99th Ave
Project Description:
Replace 1 commercial service on 99th Ave between Sun City Blvd and Peoria Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
1250 0 125 250 375 500
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

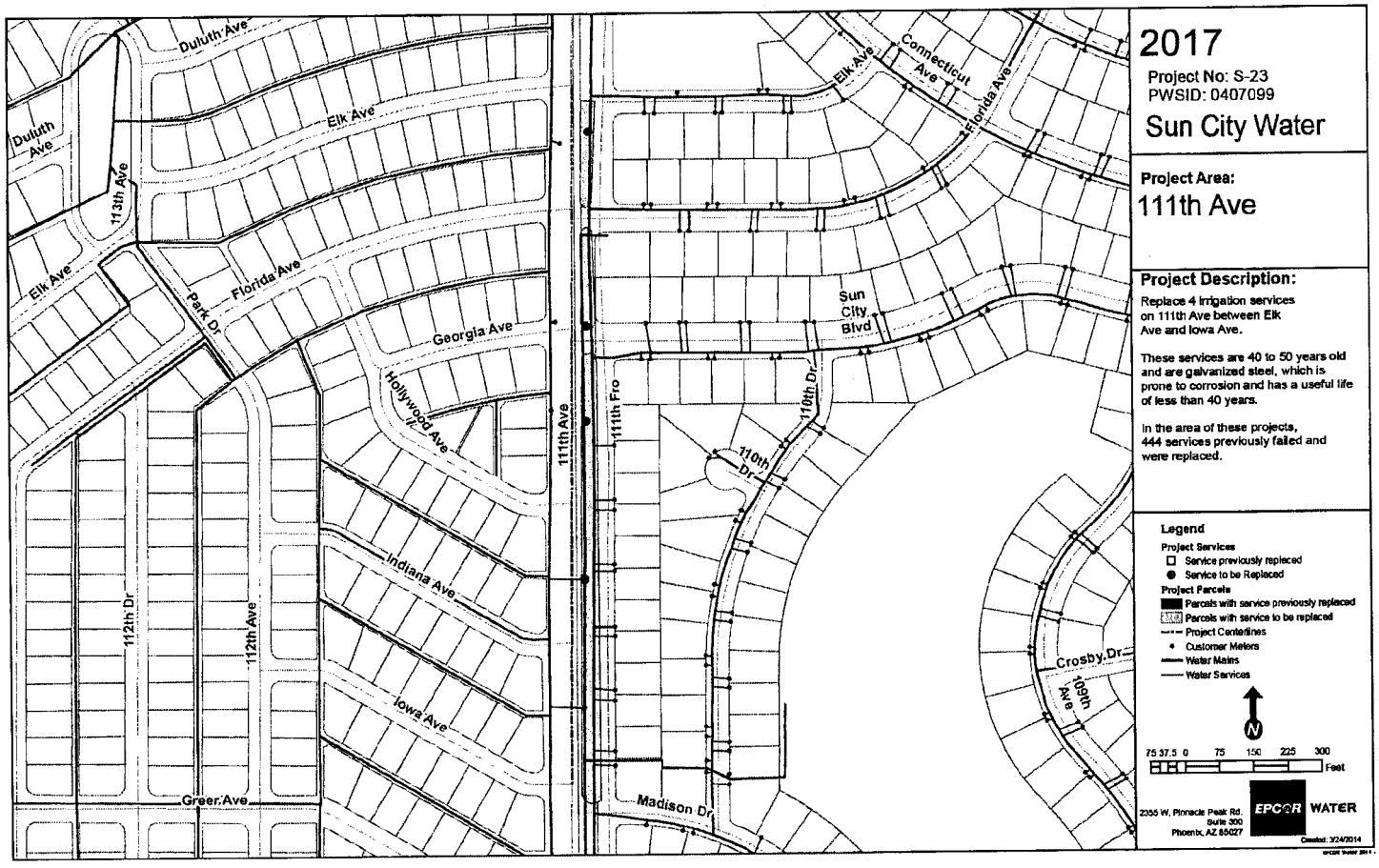
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-22**	Project Location: 99th Ave

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on 99th Ave between Sun City Blvd and Peoria Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	3" service	3740	Contractor material and labor to replace services	$ 3,740
1	hours	28	Company labor for field oversight and construction project management	$ 28
Subtotal				$ 3,768
General Overhead Rate on Labor and Capital (10%)				$ 377
Total Estimated Cost				**$ 4,145**


Duluth Ave
Duluth Ave
Elk Ave
113th Ave
Elk Ave
Park Dr
Florida Ave
Georgia Ave
Hollywood Ave
111th Ave
111th Fro
Elk Ave
Connecticut Ave
Florida Ave
Sun City Blvd
110th Dr
110th Dr
112th Dr
112th Ave
Indiana Ave
Iowa Ave
Greer Ave
Madison Dr
Crosby Dr
109th Ave
2017
Project No: S-23
PWSID: 0407099
Sun City Water
Project Area:
111th Ave
Project Description:
Replace 4 irrigation services on 111th Ave between Elk Ave and Iowa Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

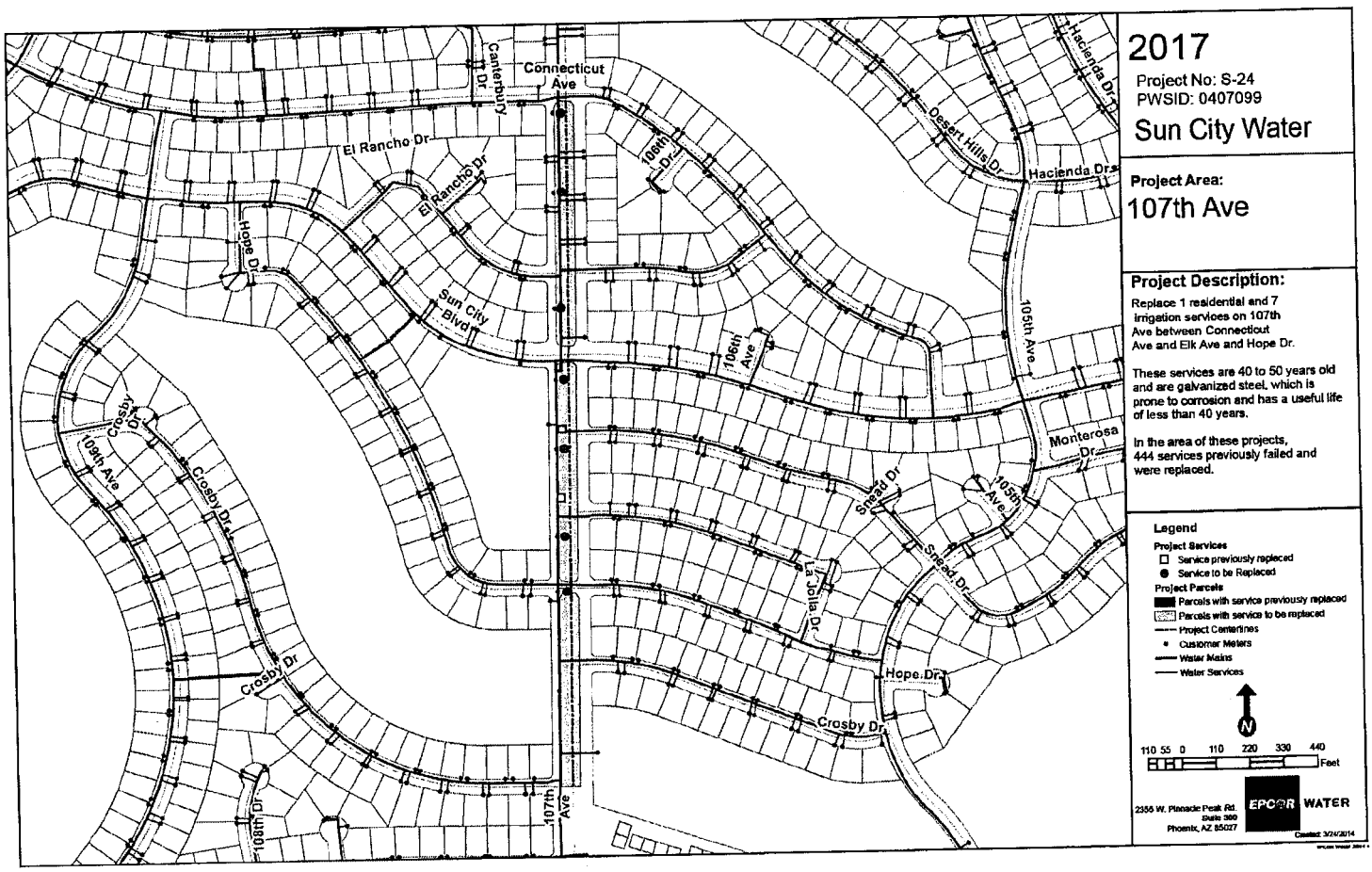
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-23**	Project Location: 111th Ave South

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (4 total on 111th Ave between Elk Ave and Iowa Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
4	1.5" service	3560	Contractor material and labor to replace services	$ 14,240
4	hours	28	Company labor for field oversight and construction project management	$ 112
Subtotal				$ 14,352
General Overhead Rate on Labor and Capital (10%)				$ 1,435
Total Estimated Cost				**$ 15,787**


2017
Project No: S-24
PWSID: 0407099
Sun City Water
Project Area:
107th Ave
Project Description:
Replace 1 residential and 7 irrigation services on 107th Ave between Connecticut Ave and Elk Ave and Hope Dr.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
110 55 0 110 220 330 440
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER
Connecticut Ave
Canterbury Dr
El Rancho Dr
Hope Dr
Sun City Blvd
106th Dr
106th Ave
Hacienda Dr
Desert Hills Dr
105th Ave
Monterosa Dr
Crosby Dr
108th Ave
Snead Dr
La Jolla Dr
Hope Dr
107th Ave
108th Dr

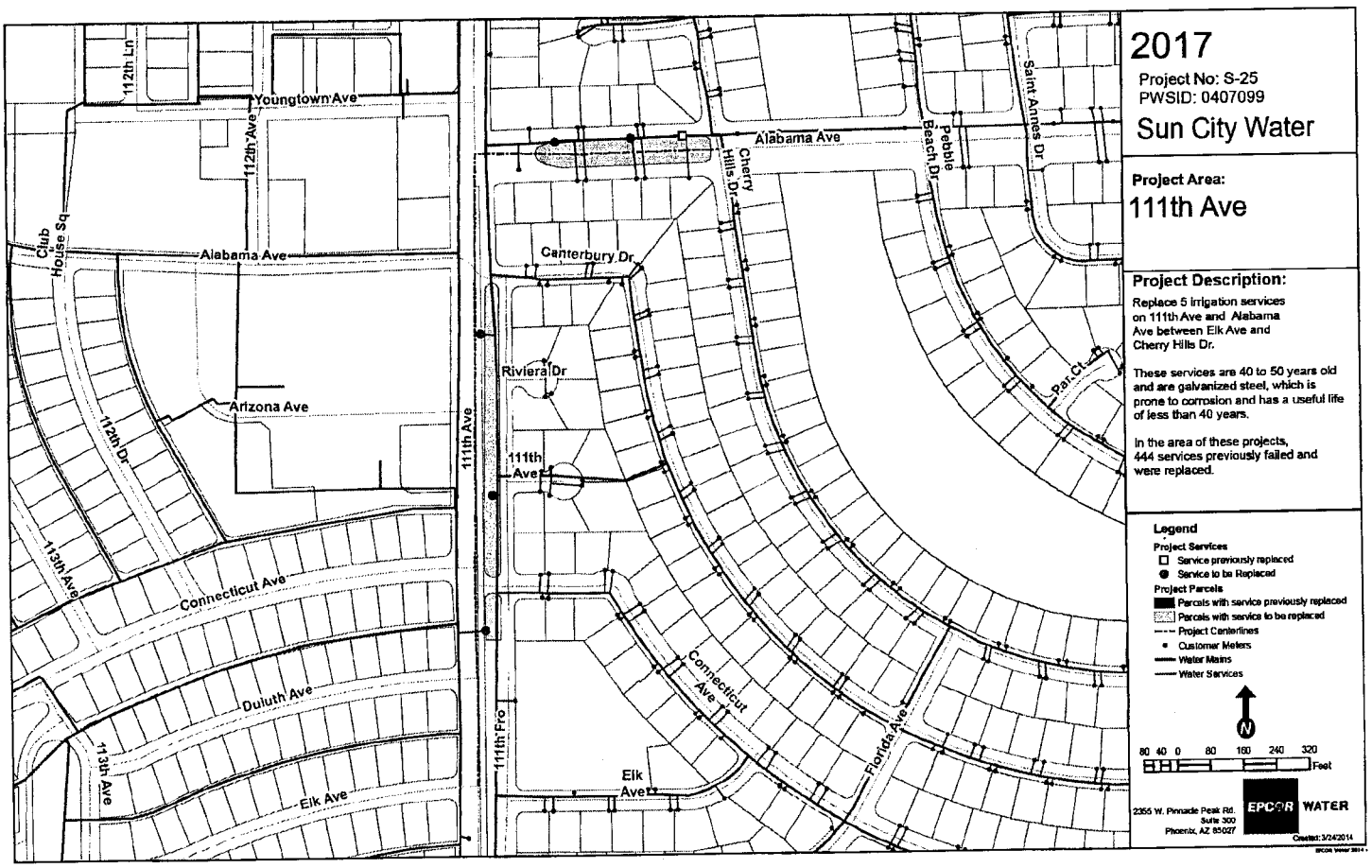
EPCOR Water **Preliminary Cost Estimate**				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-24**	Project Location: 107th Ave South	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 107th Ave between Connecticut Ave and Elk Ave and Hope Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	1.5" service	3560	Contractor material and labor to replace services	$ 28,480
8	hours	28	Company labor for field oversight and construction project management	$ 224
Subtotal				$ 28,704
General Overhead Rate on Labor and Capital (10%)				$ 2,870
Total Estimated Cost				**$ 31,574**


112th Ln
Youngtown Ave
112th Ave
Club House Sq
Alabama Ave
Arizona Ave
112th Dr
113th Ave
Connecticut Ave
Duluth Ave
113th Ave
Elk Ave
111th Ave
111th Fro
Riviera Dr
111th Ave
Canterbury Dr
Alabama Ave
Cherry Hills Dr
Pebble Beach Dr
Saint Annes Dr
Par Ct
Connecticut Ave
Florida Ave
Elk Ave
2017
Project No: S-25
PWSID: 0407099
Sun City Water
Project Area:
111th Ave
Project Description:
Replace 5 irrigation services on 111th Ave and Alabama Ave between Elk Ave and Cherry Hills Dr.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
80 40 0 80 160 240 320
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

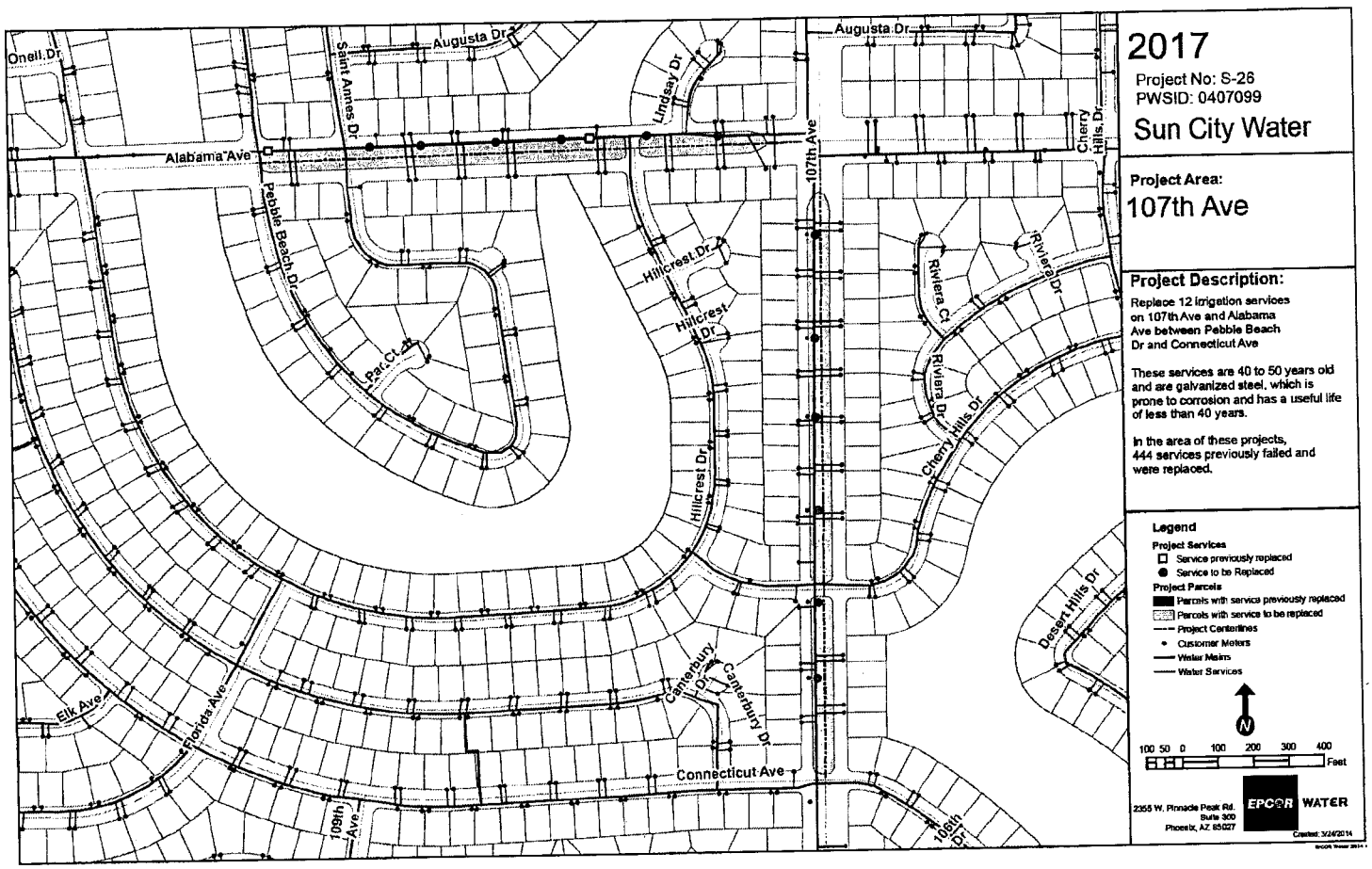
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2017 S-25**	111th Ave North

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on 111th Ave and Alabama Ave between Elk Ave and Cherry Hills Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	1.5" service	3560	Contractor material and labor to replace services	$ 17,800
5	hours	28	Company labor for field oversight and construction project management	$ 140
Subtotal				$ 17,940
General Overhead Rate on Labor and Capital (10%)				$ 1,794
Total Estimated Cost				**$ 19,734**



2017

Project No: S-26
PWSID: 0407099

Sun City Water

Project Area:

107th Ave

Project Description:

Replace 12 irrigation services on 107th Ave and Alabama Ave between Pebble Beach Dr and Connecticut Ave

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/24/2014

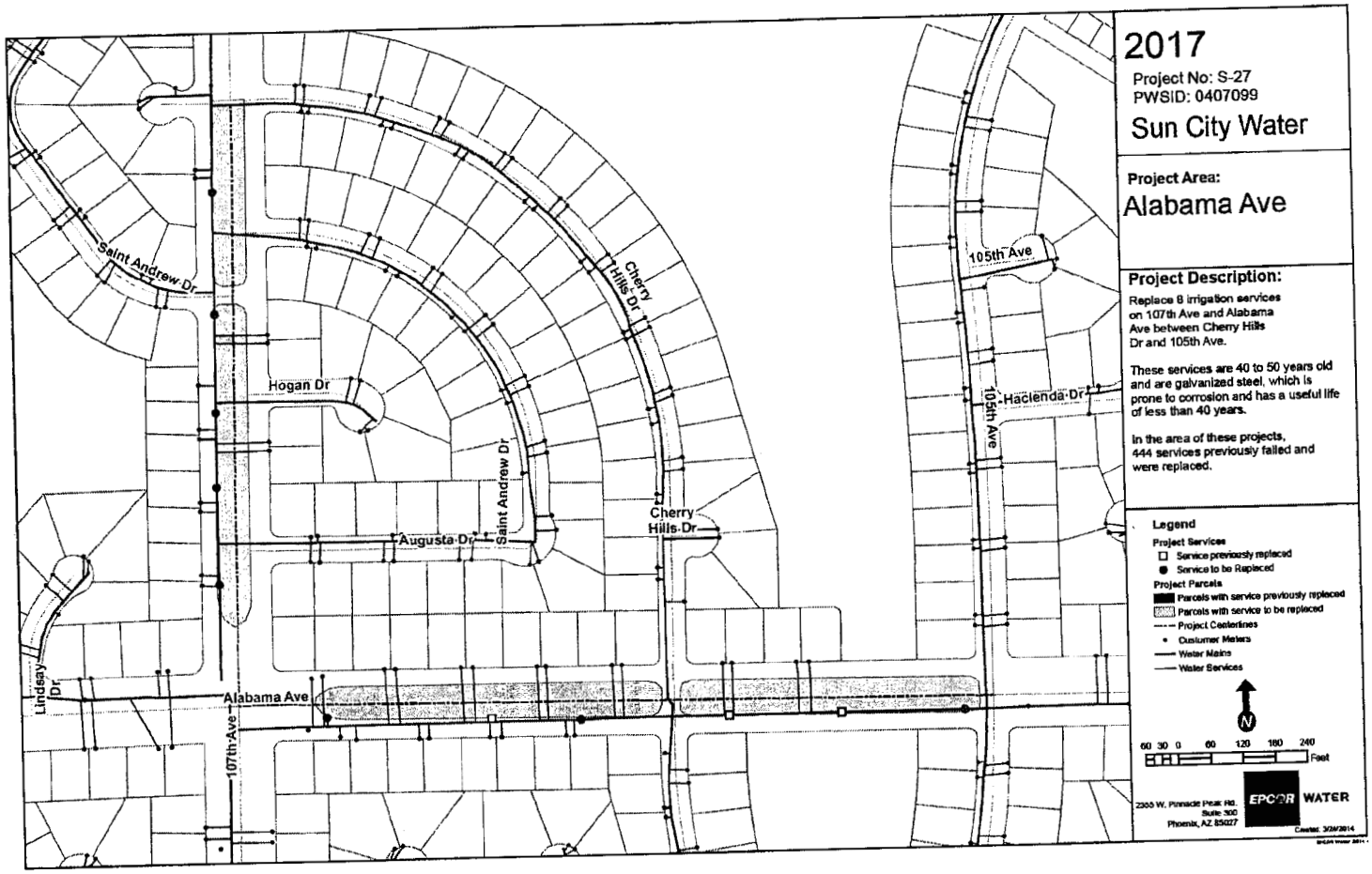
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-26**	Project Location: 107th Ave North

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (12 total on 107th Ave and Alabama Ave between Pebble Beach Dr and Connecticut Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
12	1.5" service	3560	Contractor material and labor to replace services	$ 42,720
12	hours	28	Company labor for field oversight and construction project management	$ 336
Subtotal				$ 43,056
General Overhead Rate on Labor and Capital (10%)				$ 4,306
Total Estimated Cost				**$ 47,362**


2017
Project No: S-27
PWSID: 0407099
Sun City Water
Project Area:
Alabama Ave
Project Description:
Replace 8 irrigation services on 107th Ave and Alabama Ave between Cherry Hills Dr and 105th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
60 30 0 60 120 180 240
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014
Saint Andrew Dr
Hogan Dr
Augusta Dr
Saint Andrew Dr
Cherry Hills Dr
Cherry Hills Dr
105th Ave
Hacienda Dr
105th Ave
Lindsay Dr
Alabama Ave
107th Ave

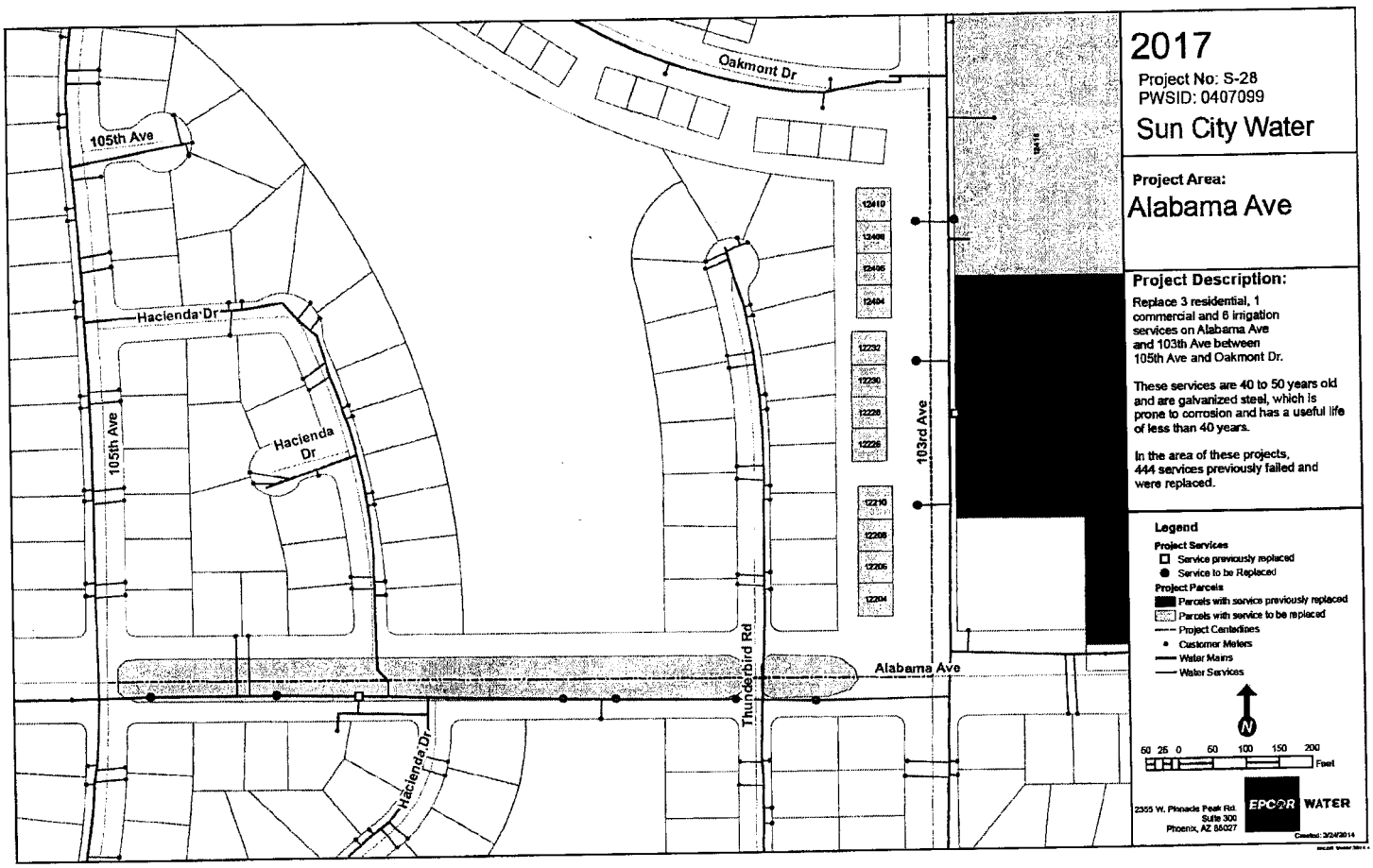
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-27**	Project Location: Alabama Ave and 107th Ave

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 107th Ave and Alabama Ave between Cherry Hills Dr and 105th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	1.5" service	3560	Contractor material and labor to replace services	$ 28,480
8	hours	28	Company labor for field oversight and construction project management	$ 224
Subtotal				$ 28,704
General Overhead Rate on Labor and Capital (10%)				$ 2,870
Total Estimated Cost				**$ 31,574**


Oakmont Dr
105th Ave
Hacienda Dr
105th Ave
Hacienda Dr
Hacienda Dr
Thunderbird Rd
Alabama Ave
103rd Ave
12410
12408
12406
12404
12232
12230
12228
12226
12210
12208
12206
12204
2017
Project No: S-28
PWSID: 0407099
Sun City Water
Project Area:
Alabama Ave
Project Description:
Replace 3 residential, 1 commercial and 6 irrigation services on Alabama Ave and 103th Ave between 105th Ave and Oakmont Dr.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
60 25 0 60 100 150 200
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

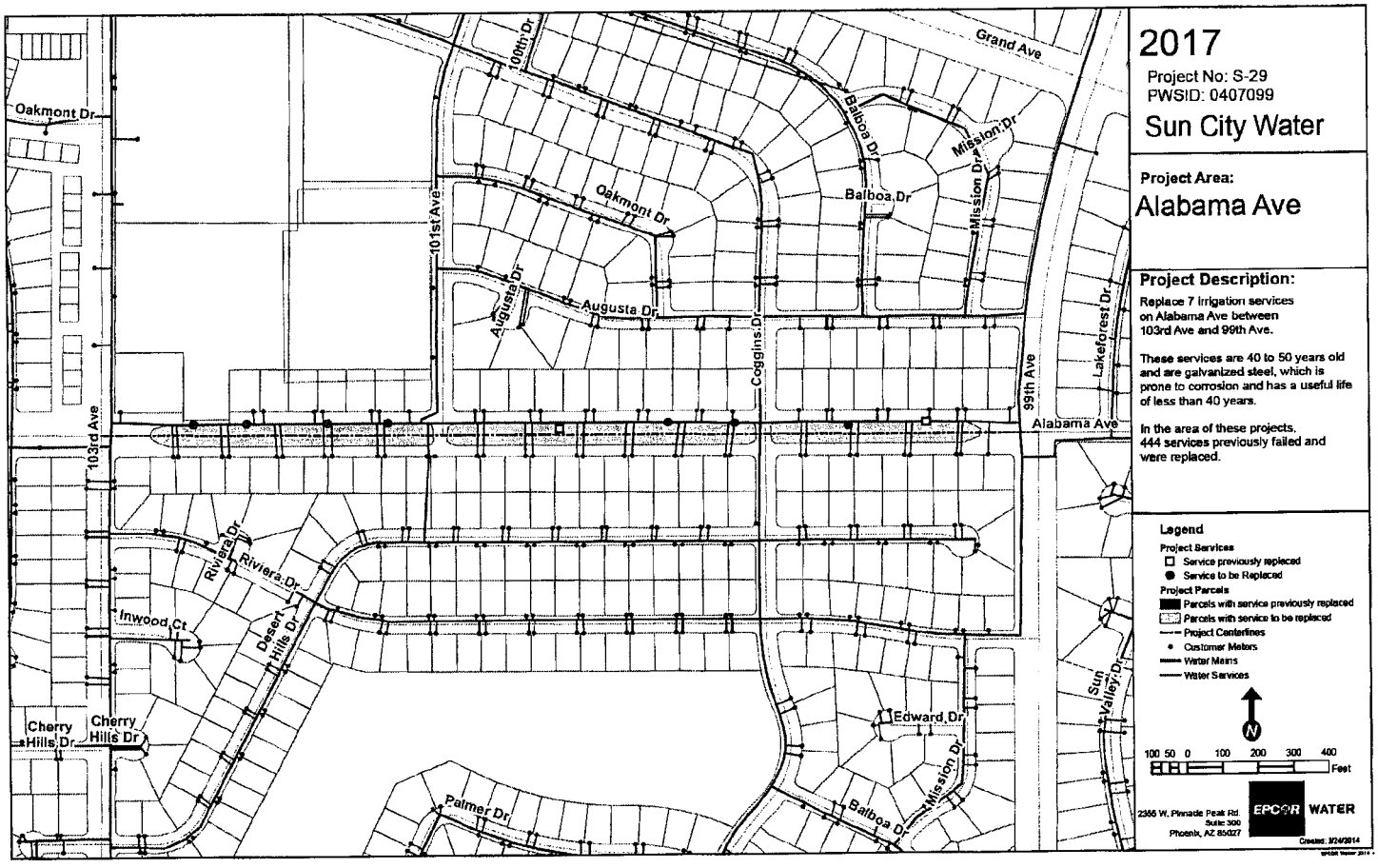
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-28**	Project Location: Alabama Ave at Thunderbird	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Alabama Ave and 103th Ave between 105th Ave and Oakmont Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
10	1.5" service	3560	Contractor material and labor to replace services	$ 35,600
10	hours	28	Company labor for field oversight and construction project management	$ 280
Subtotal				$ 35,880
General Overhead Rate on Labor and Capital (10%)				$ 3,588
Total Estimated Cost				**$ 39,468**



2017

Project No: S-29
PWSID: 0407099

Sun City Water

Project Area:

Alabama Ave

Project Description:

Replace 7 irrigation services on Alabama Ave between 103rd Ave and 99th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/24/2014

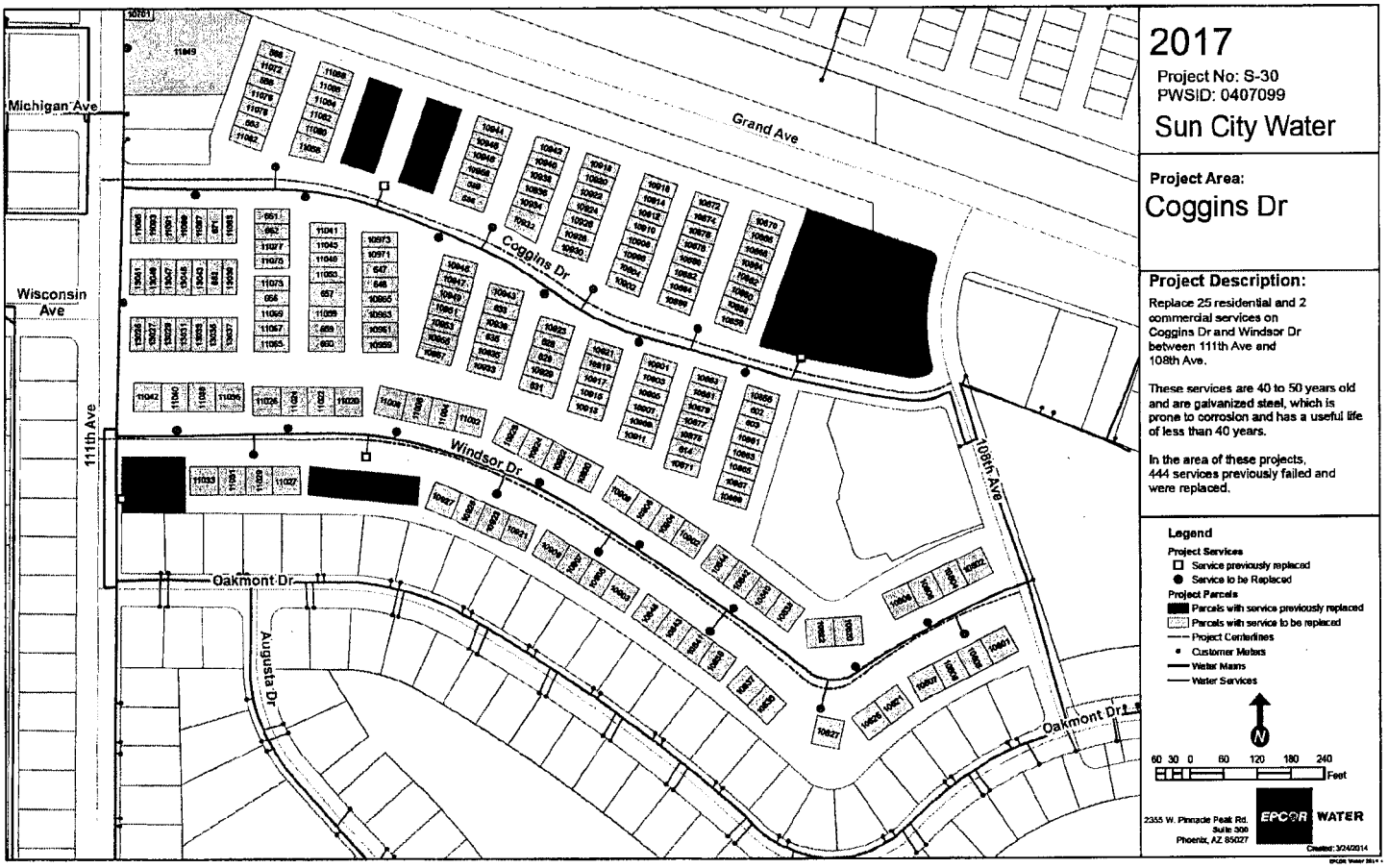
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-29**	Project Location: Alabama Ave at Coggins

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (7 total on Alabama Ave between 103rd Ave and 99th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
7	1.5" service	3560	Contractor material and labor to replace services	$ 24,920
7	hours	28	Company labor for field oversight and construction project management	$ 196
Subtotal				$ 25,116
General Overhead Rate on Labor and Capital (10%)				$ 2,512
Total Estimated Cost				**$ 27,628**


Michigan Ave
Wisconsin Ave
111th Ave
Grand Ave
Coggins Dr
Windsor Dr
Oakmont Dr
Augusta Dr
108th Ave
Oakmont Dr
2017
Project No: S-30
PWSID: 0407099
Sun City Water
Project Area:
Coggins Dr
Project Description:
Replace 25 residential and 2 commercial services on Coggins Dr and Windsor Dr between 111th Ave and 108th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
60 30 0 60 120 180 240
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

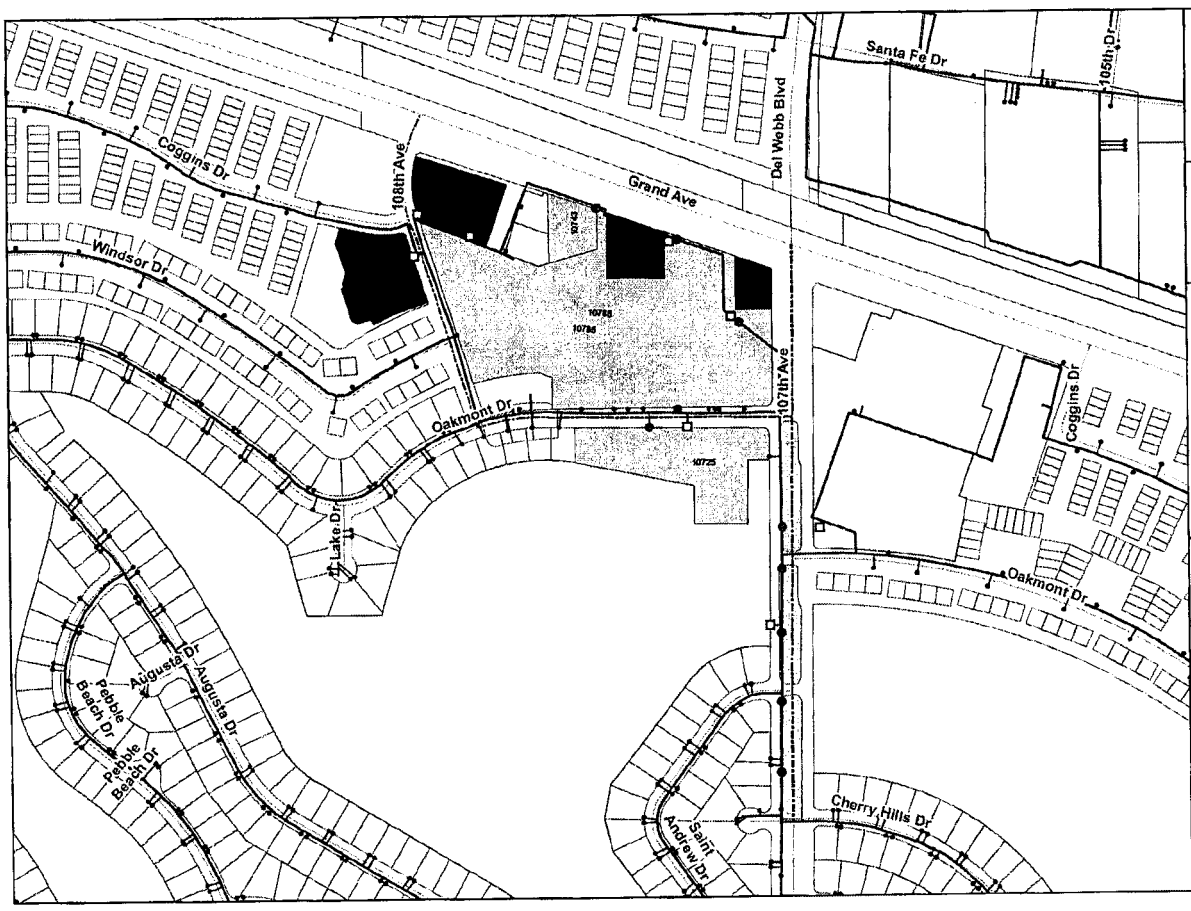
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-30**	Project Location: Coggins Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (27 total on Coggins Dr and Windsor Dr between 111th Ave and 108th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
14	1.5" service	3560	Contractor material and labor to replace services	$ 49,840
13	2" service	3620	Contractor material and labor to replace services	$ 47,060
27	hours	28	Company labor for field oversight and construction project management	$ 756
Subtotal				$ 97,656
General Overhead Rate on Labor and Capital (10%)				$ 9,766
Total Estimated Cost				$ **107,422**



2017

Project No: S-31
PWSID: 0407099

Sun City Water

Project Area:

Oakmont Dr

Project Description:

Replace 4 commercial and 6 irrigation services on Oakmont Dr, 107th Ave and 108th Ave between Grand Ave and Cherry Hills Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

110 55 0 110 220 330 440 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-31**	Project Location: Oakmont Dr West	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total on Oakmont Dr, 107th Ave and 108th Ave between Grand Ave and Cherry Hills Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	1.5" service	3560	Contractor material and labor to replace services	$ 28,480
2	2" service	3620	Contractor material and labor to replace services	$ 7,240
10	hours	28	Company labor for field oversight and construction project management	$ 280
Subtotal				$ 36,000
General Overhead Rate on Labor and Capital (10%)				$ 3,600
Total Estimated Cost				**$ 39,600**

2017

Project No: S-32
PWSID: 0407099

Sun City Water

Project Area:

Oakmont Dr

Project Description:

Replace 14 residential services on 105th Ave, Coggins Dr and Oakmont Dr between 107th Ave and 105th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

75 37.5 0 75 150 225 300 Feet

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

EPCOR WATER

Created: 3/24/2014

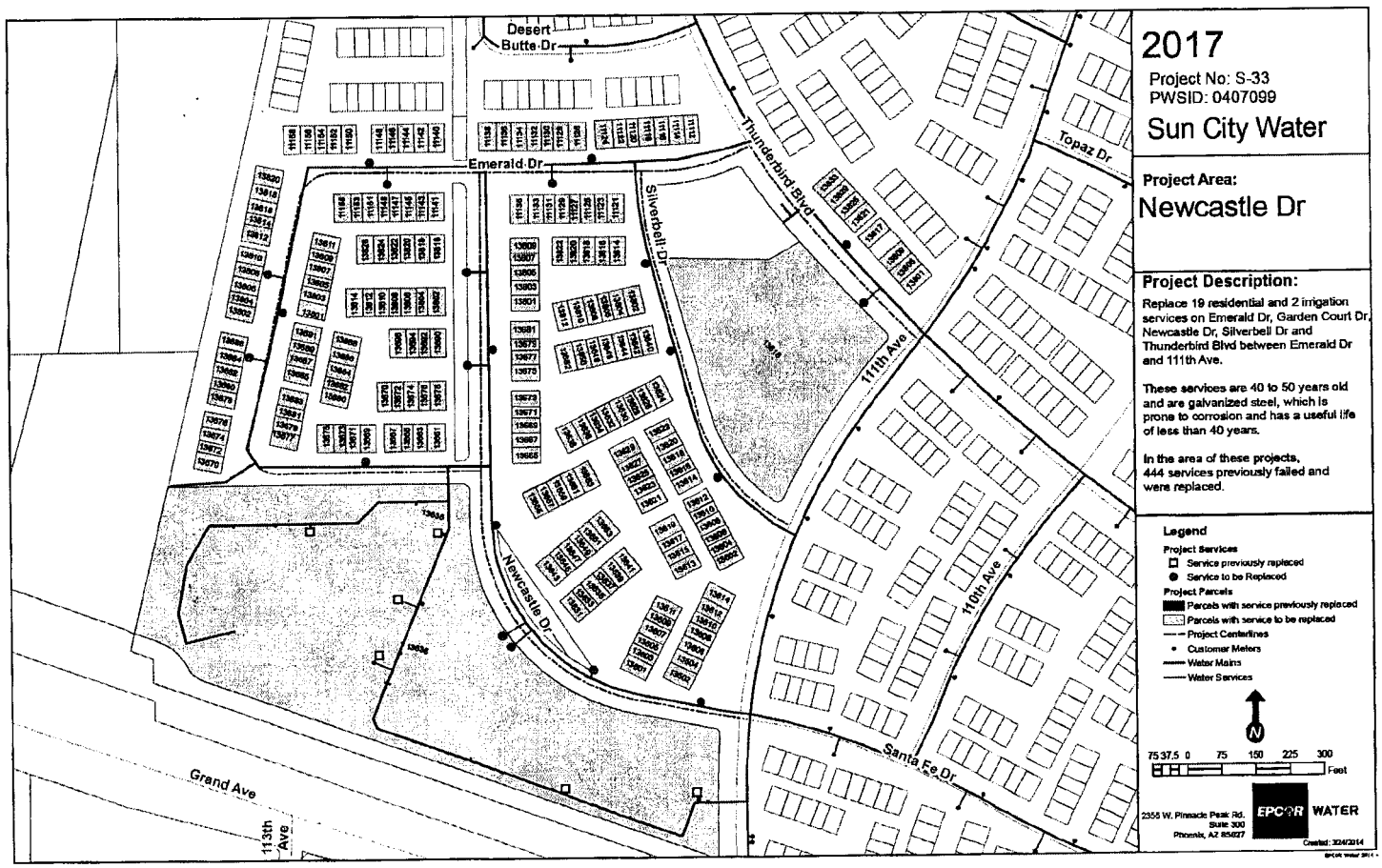
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2017 S-32**	Project Location: Oakmont Dr East

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on 105th Ave, Coggins Dr and Oakmont Dr between 107th Ave and 105th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
6	1.5" service	3560	Contractor material and labor to replace services	$ 21,360
8	2" service	3620	Contractor material and labor to replace services	$ 28,960
14	hours	28	Company labor for field oversight and construction project management	$ 392
Subtotal				$ 50,712
General Overhead Rate on Labor and Capital (10%)				$ 5,071
Total Estimated Cost				**$ 55,783**


Desert Butte Dr
Emerald Dr
Thunderbird Blvd
Topaz Dr
Silverbell Dr
111th Ave
110th Ave
Newcastle Dr
Santa Fe Dr
Grand Ave
113th Ave
2017
Project No: S-33
PWSID: 0407099
Sun City Water
Project Area:
Newcastle Dr
Project Description:
Replace 19 residential and 2 irrigation services on Emerald Dr, Garden Court Dr, Newcastle Dr, Silverbell Dr and Thunderbird Blvd between Emerald Dr and 111th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER

EPCOR Water
Preliminary Cost Estimate

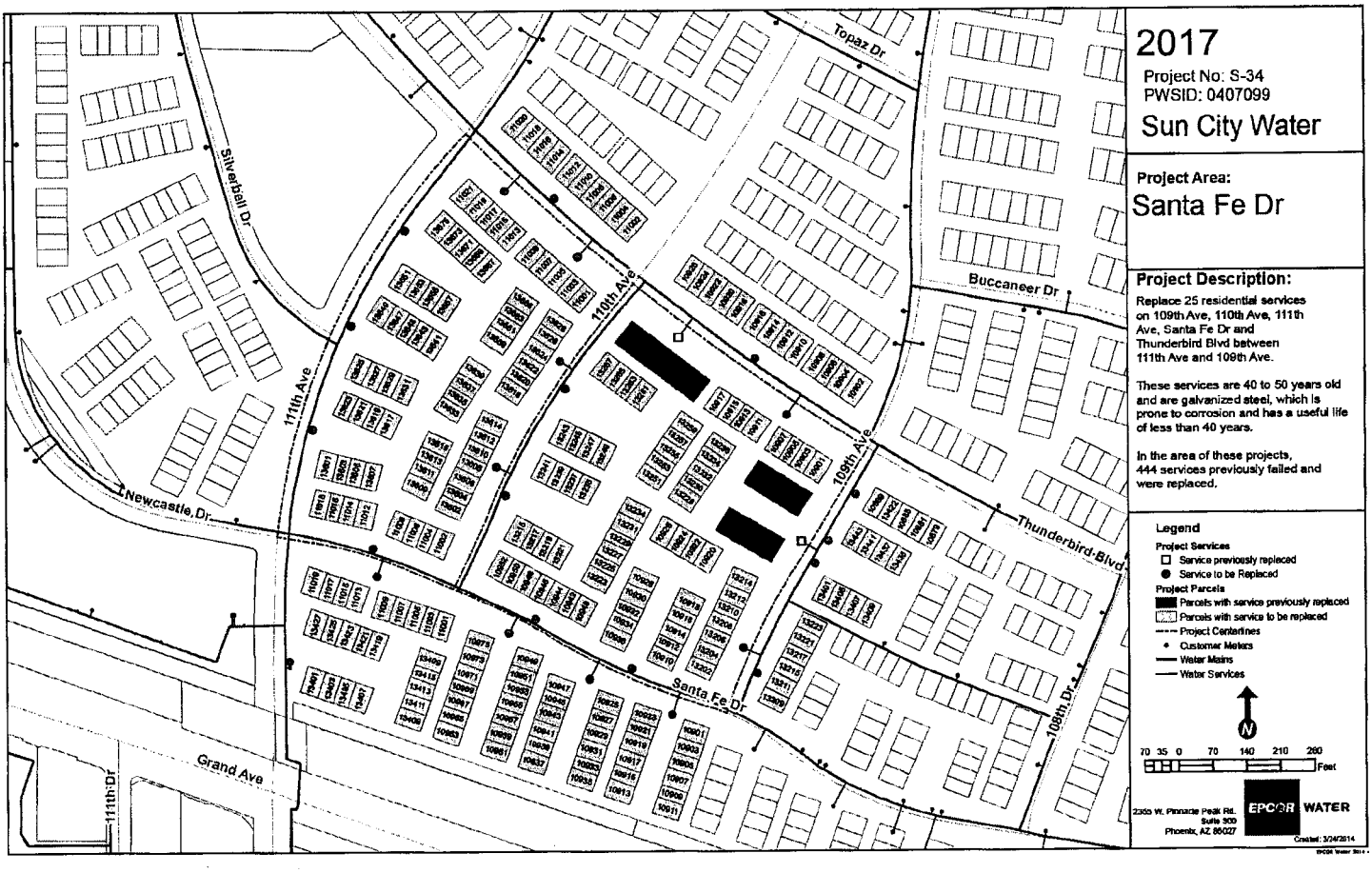
Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2017 S-33**	Newcastle Dr

Project Description:
Replace aging services with copper service lines to reduce water leaks and emergency repairs. (21 total on Emerald Dr, Garden Court , Newcastle Dr, Silverbell Dr and Thunderbird Blvd between Emerald Dr and 111th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	1.5" service	3560	Contractor material and labor to replace services	$ 17,800
16	2" service	3620	Contractor material and labor to replace services	$ 57,920
21	hours	28	Company labor for field oversight and construction project management	$ 588
Subtotal				$ 76,308
General Overhead Rate on Labor and Capital (10%)				$ 7,631
Total Estimated Cost				$ **83,939**



2017

Project No: S-34
PWSID: 0407099

Sun City Water

Project Area:

Santa Fe Dr

Project Description:

Replace 25 residential services on 109th Ave, 110th Ave, 111th Ave, Santa Fe Dr and Thunderbird Blvd between 111th Ave and 109th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

70 35 0 70 140 210 280
Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

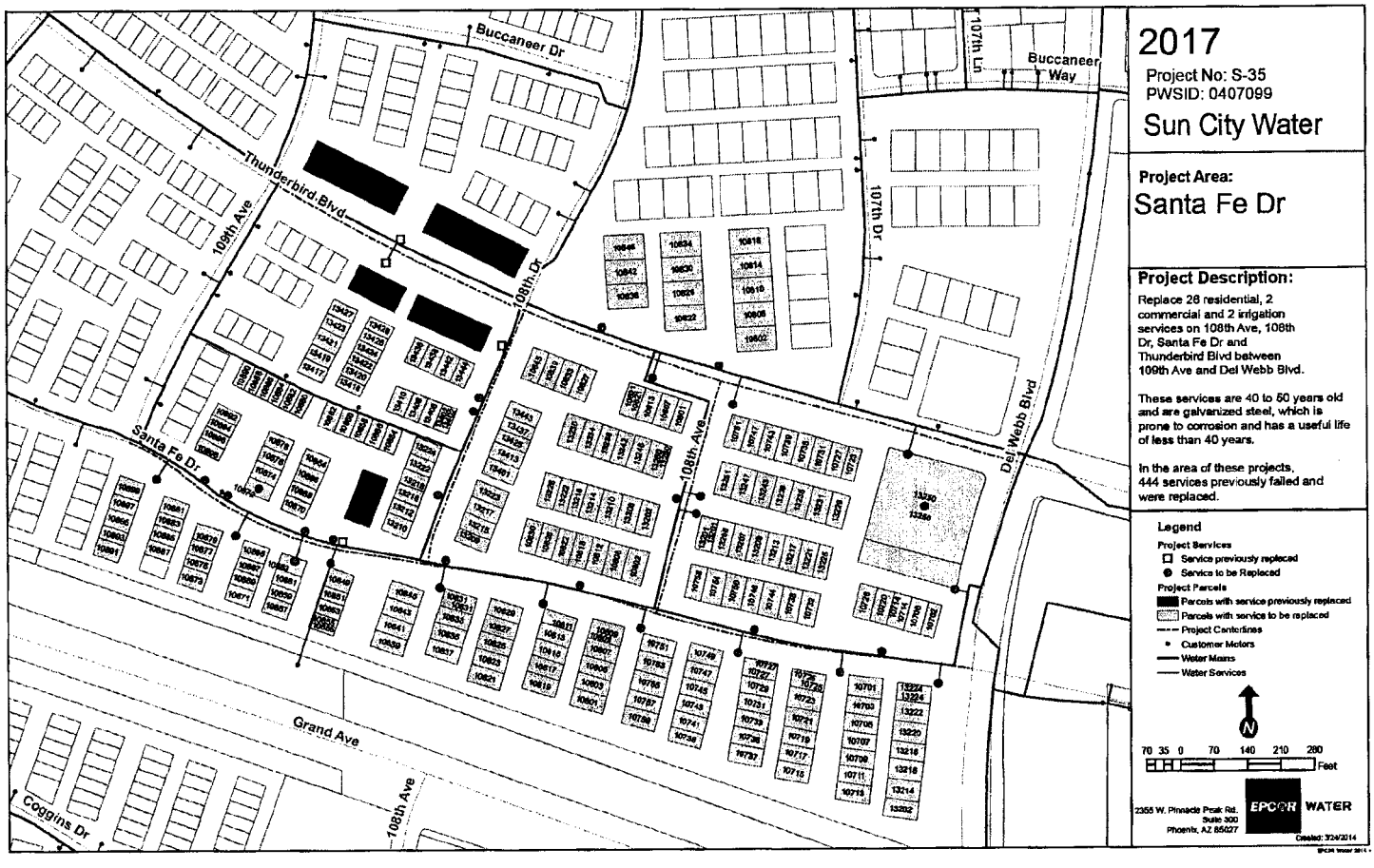
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2017 S-34**	Santa Fe Dr West

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (25 total on 109th Ave, 110th Ave, 111th Ave, Santa Fe Dr and Thunderbird Blvd between 111th Ave and 109th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
4	1.5" service	3560	Contractor material and labor to replace services	$ 14,240
20	2" service	3620	Contractor material and labor to replace services	$ 72,400
1	2.5" service	3680	Contractor material and labor to replace services	$ 3,680
25	hours	28	Company labor for field oversight and construction project management	$ 700
Subtotal				$ 91,020
General Overhead Rate on Labor and Capital (10%)				$ 9,102
Total Estimated Cost				**$ 100,122**


Buccaneer Dr
107th Ln
Buccaneer Way
Thunderbird Blvd
109th Ave
108th Dr
107th Dr
Santa Fe Dr
108th Ave
Del Webb Blvd
Grand Ave
Coggins Dr
108th Ave
2017
Project No: S-35
PWSID: 0407099
Sun City Water
Project Area:
Santa Fe Dr
Project Description:
Replace 26 residential, 2 commercial and 2 irrigation services on 108th Ave, 108th Dr, Santa Fe Dr and Thunderbird Blvd between 109th Ave and Del Webb Blvd.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
70 35 0 70 140 210 280
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2017 S-35**	Santa Fe Dr East

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (32 total on 108th Ave, 108th Dr, Santa Fe Dr and Thunderbird Blvd between 109th Ave and Del Webb Blvd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
10	1.5" service	3560	Contractor material and labor to replace services	$ 35,600
22	2" service	3620	Contractor material and labor to replace services	$ 79,640
32	hours	28	Company labor for field oversight and construction project management	$ 896
Subtotal				$ 116,136
General Overhead Rate on Labor and Capital (10%)				$ 11,614
Total Estimated Cost				**$ 127,750**

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 1-3

2018 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

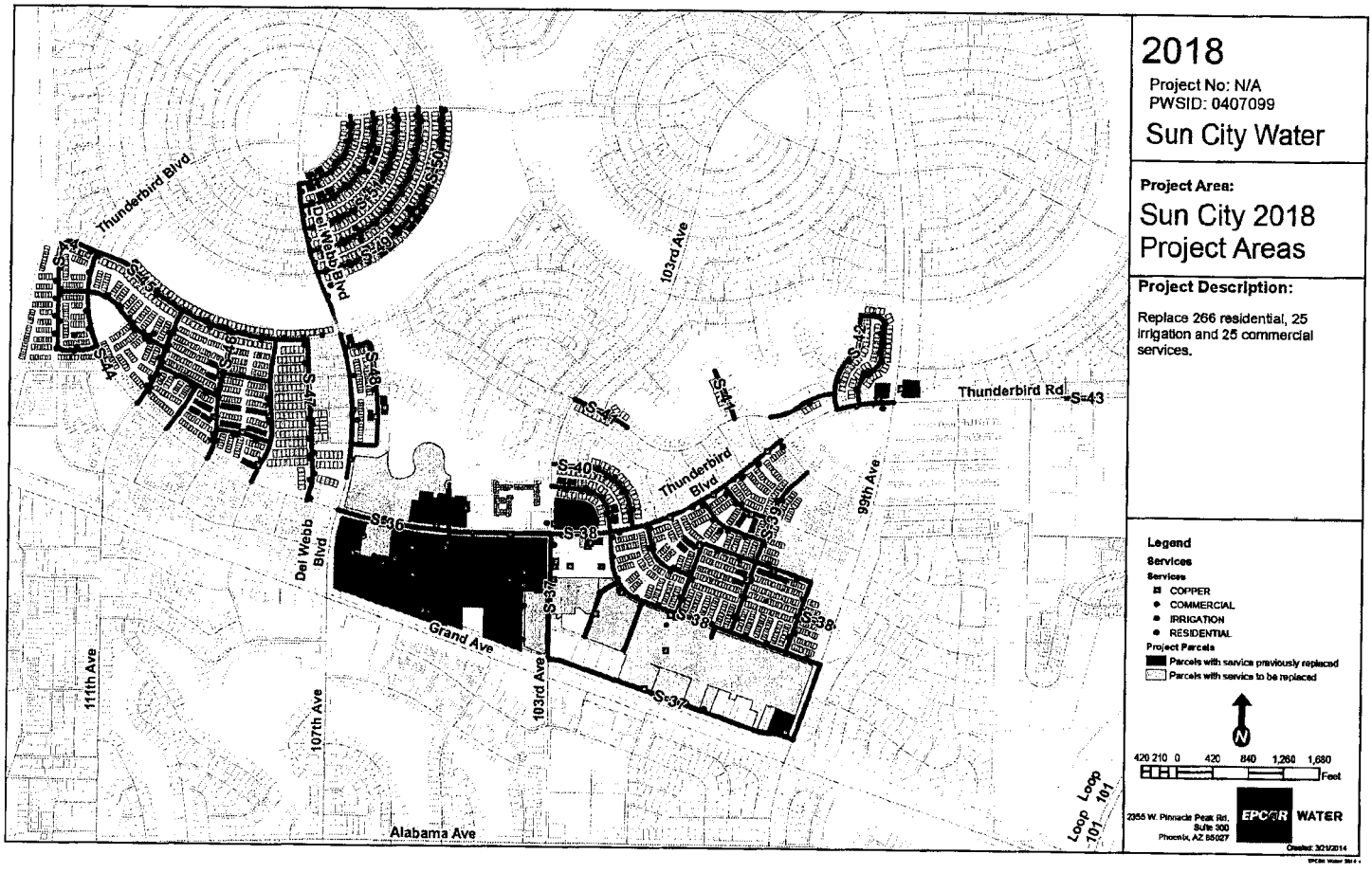
	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333** ***Services*** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-36	333	service lines	11	5-1.5" 5-2" 1-3"	Copper	1.5"-$3,947 2"-$4,013 3"-$4,145	Thunderbird Blvd	12/2018	n/a	$43,943	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on 105th Ave and Thunderbird Blvd between Del Webb Blvd and 103rd Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-36 in *Exhibit CC-1-B for more detail.*
S-37	333	service lines	9	7-1.5" 2-2"	Copper	1.5"-$3,947 2"-$4,013	Royal Oak Rd South	12/2018	n/a	$31,640	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (9 total on 103rd Ave, 99th Ave and Santa Fe Dr between 103rd Ave and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to

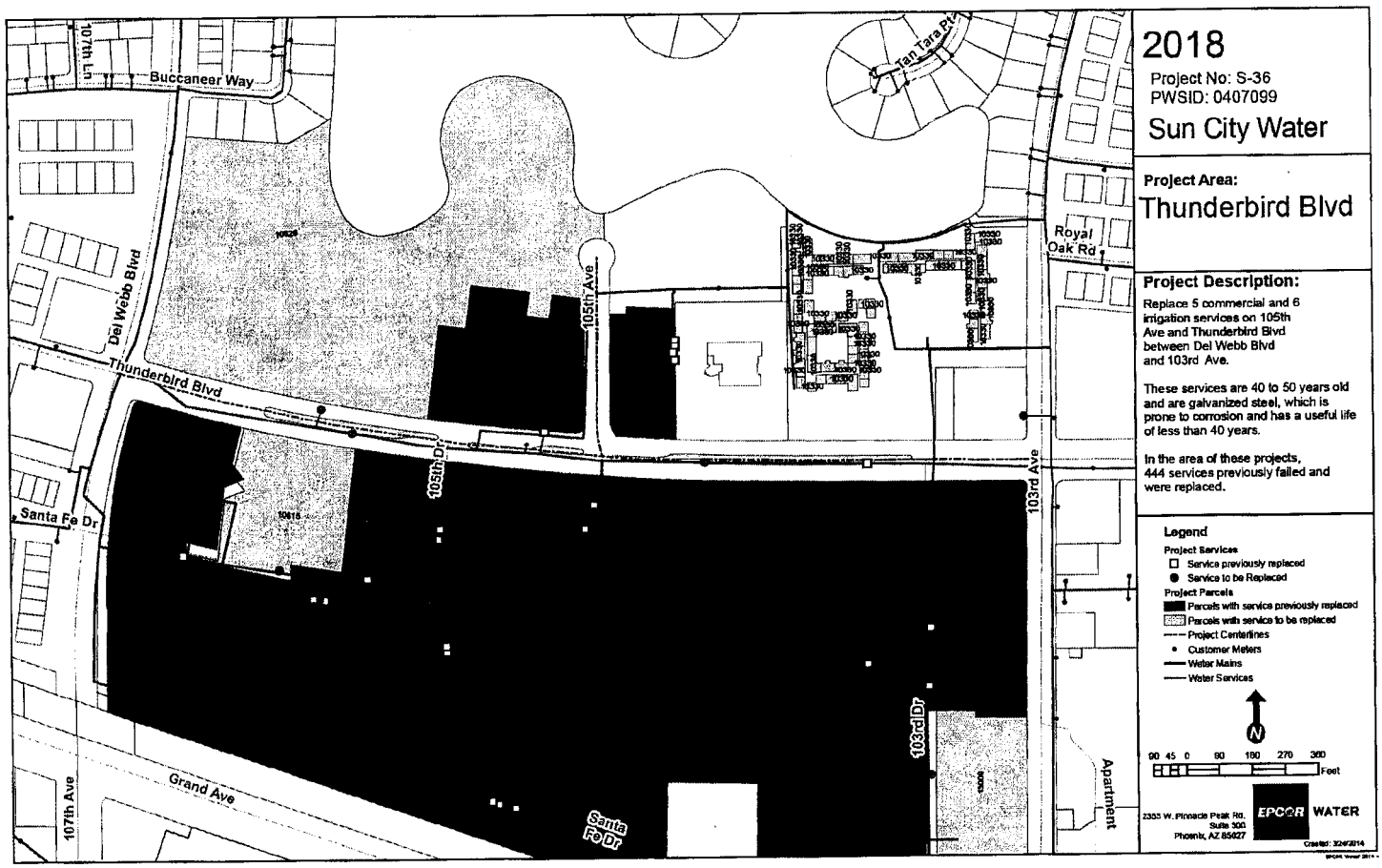
											new growth. See Section 1 narrative and Map No. S-37 in Exhibit CC-1-B for more detail.
S-38	333	service lines	39	2-1.5" 37-2"	Copper	1.5"-$3,947 2"-$4,013	Royal Oak Rd North	12/2018	n/a	$156,367	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (39 total on 100th Ave, 100th Dr, 99th Dr, Cedar Dr, Forrester Dr, Royal Oak Rd and Thunderbird Blvd between Thunderbird Bld and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-38 in Exhibit CC-1-B for more detail.
S-39	333	service lines	22	3-1.5" 19-2"	Copper	1.5"-$3,947 2"-$4,013	Hawthorn Dr	12/2018	n/a	$88,084	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on 100th Ave, Emberwood Dr, Hawthorn Dr and Thunderbird Blvd between Forrester Dr and Lancaster Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-39 in Exhibit CC-1-B for more detail.
S-40	333	service lines	14	1.5"	Copper	$3,947	Candlewood Dr	12/2018	n/a	$55,255	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Royal Oak Rd and Candlewood Dr between 103rd Ave and Thunderbird Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-40 in Exhibit CC-1-B for more detail.

S-41	333	service lines	5	1.5"	Copper	$3.9477	Bolivar Dr	12/2018	n/a	$19,734	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on Bolivar Dr and Crown Pt between 103rd Ave and Teakwood Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-41 in Exhibit CC-1-B for more detail.
S-42	333	service lines	17	1.5"	Copper	$3,947	Tumble-brook Way	12/2018	n/a	$67,096	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (17 total on 99th Dr, Bolivar Dr, Thunderbird Blvd and Tumblebrook Way between LancasterDr and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-42 in Exhibit CC-1-B for more detail.
S-43	333	service lines	1	1.5"	Copper	$3,947	Thunderbird Ave	12/2018	n/a	$3,947	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on Thunderbird Rd between Sahara Dr and 93rd Ave.) This service is a priority because it was installed 40 to 50 years ago. Replacing the service will help reduce system water loss and improve customer pressure and flow. The service line replacement is for existing customers and not related to new growth. See Section 1 narrative and Map No. S-43 in Exhibit CC-1-B for more detail.
S-44	333	service lines	18	1-1.5" 17-2"	Copper	1.5"-$3,947 2"-$4,013	Newcastle Dr	12/2018	n/a	$72,164	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (18 total on Cameo Dr, Desert Butte Dr, Newcastle Dr, PalmRidge Dr and Thunderbird Blvd between Cameo Dr and Emerald Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-44 in Exhibit CC-1-B for more detail.

S-45	333	service lines	24	8-1.5" 16-2"	Copper	1.5"-$3,947 2"-$4,013	Palm Ridge Dr	12/2018	n/a	$95,779	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (24 total on 111th Ave, Cameo Dr and Palm Ridge Dr between Thunderbird Blvd and 111th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-45 in Exhibit CC-1-B for more detail.
S-46	333	service lines	20	6-1.5" 14-2"	Copper	1.5"-$3,947 2"-$4,013	Topaz Dr	12/2018	n/a	$79,860	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (20 total on 109th Ave, 110th Ave, Cameo Dr and Topaz Dr between 111th Ave and 109th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-46 in Exhibit CC-1-B for more detail.
S-47	333	service lines	33	8-1.5" 25-2"	Copper	1.5"-$3,947 2"-$4,013	108th Dr	12/2018	n/a	$131,894	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (33 total on 107th Dr, 108th Dr, Buccaneer Dr, Cameo Dr and Emerald Dr between 109th Ave and 107th Ln.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-47 in Exhibit CC-1-B for more detail.
S-48	333	service lines	8	7-1.5" 1-2"	Copper	1.5"-$3,947 2"-$4,013	Buccaneer Dr	12/2018	n/a	$31,640	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on Bayside Rd, Buccaneer Way and Del Webb Blvd between Cameo Dr and Buccaneer Way.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-48 in Exhibit CC-1-B for more detail.

S-49	333	service lines	32	1.5"	Copper	$3,947	Tropicana Cir South	12/2018	n/a	$126,298	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (32 total on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-49 in Exhibit CC-1-B for more detail.
S-50	333	service lines	22	1.5"	Copper	$3,947	Tropicana Cir North	12/2018	n/a	$86,830	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-50 in Exhibit CC-1-B for more detail.
S-51	333	service lines	41	1.5"	Copper	$3,947	El Capitan Cir	12/2018	n/a	$161,819	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (41 total on Camelot Cir, Del Webb Blvd, El Capitan Cir and Roundelay Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-51 in Exhibit CC-1-B for more detail.
Total			**316**							**$1,256,363**	


Thunderbird Blvd
Del Webb Blvd
103rd Ave
Thunderbird Rd
Thunderbird Blvd
99th Ave
Del Webb Blvd
Grand Ave
111th Ave
107th Ave
103rd Ave
Alabama Ave
Loop 101
Loop 101
S-43
S-40
S-38
S-37
2018
Project No: N/A
PWSID: 0407099
Sun City Water
Project Area:
Sun City 2018 Project Areas
Project Description:
Replace 266 residential, 25 irrigation and 25 commercial services.
Legend
Services
Services
COPPER
COMMERCIAL
IRRIGATION
RESIDENTIAL
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
N
420 210 0 420 840 1,260 1,680
Feet
EPCOR WATER
2355 W. Pinnacle Peak Rd. Suite 300
Phoenix, AZ 85027
Created: 3/21/2014



2018

Project No: S-36
PWSID: 0407099

Sun City Water

Project Area:

Thunderbird Blvd

Project Description:

Replace 5 commercial and 6 irrigation services on 105th Ave and Thunderbird Blvd between Del Webb Blvd and 103rd Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

90 45 0 90 180 270 360 Feet

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

EPCOR WATER

Created: 3/24/2014

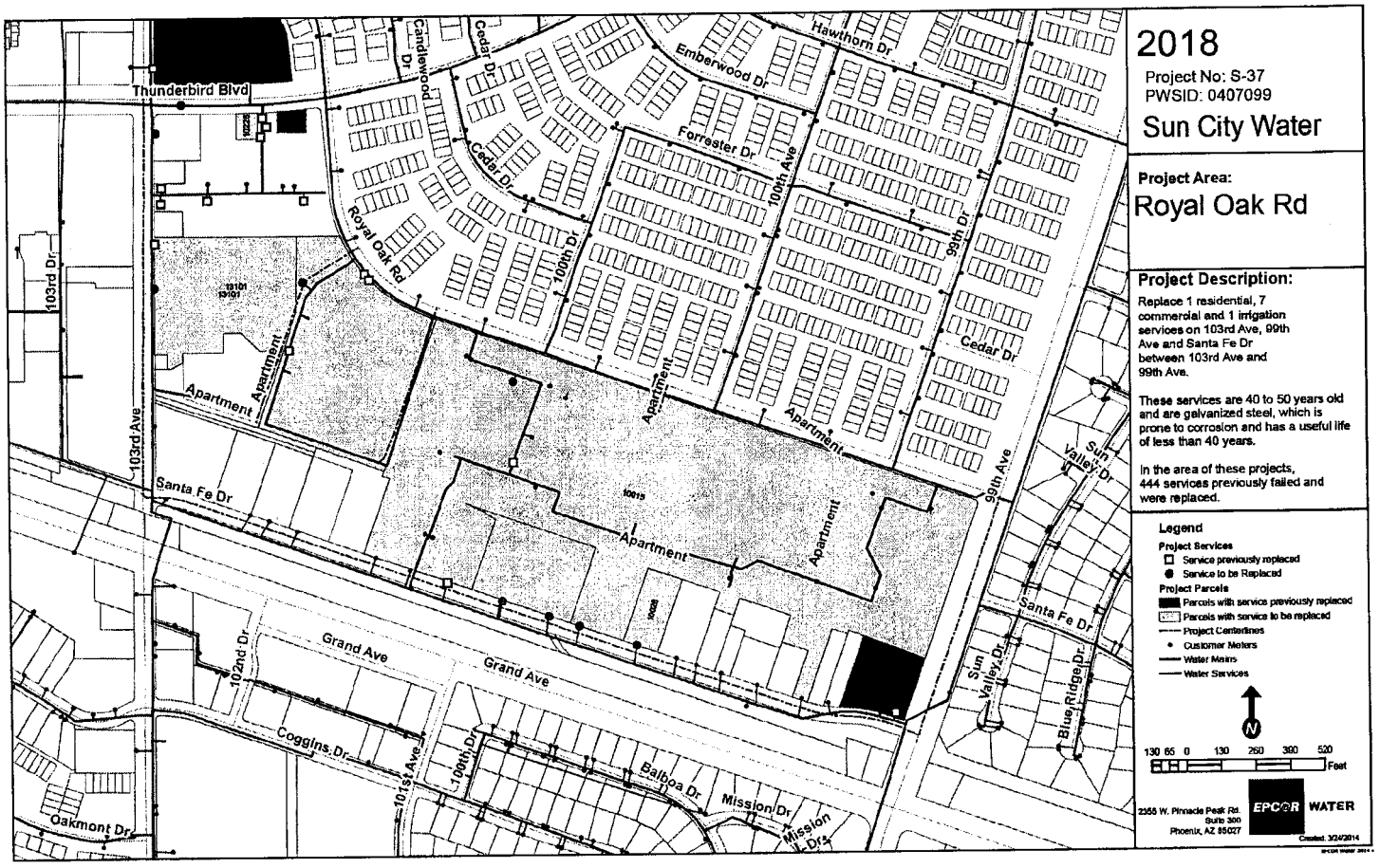
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-36**	Project Location: Thunderbird Blvd	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (11 total on 105th Ave and Thunderbird Blvd between Del Webb Blvd and 103rd Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	1.5" service	3560	Contractor material and labor to replace services	$ 17,800
5	2" service	3620	Contractor material and labor to replace services	$ 18,100
1	3" service	3740	Contractor material and labor to replace services	$ 3,740
11	hours	28	Company labor for field oversight and construction project management	$ 308
Subtotal				$ 39,948
General Overhead Rate on Labor and Capital (10%)				$ 3,995
Total Estimated Cost				**$ 43,943**


Thunderbird Blvd
Candlewood Dr
Cedar Dr
Emberwood Dr
Hawthorn Dr
Forrester Dr
100th Ave
99th Dr
Cedar Dr
Royal Oak Rd
100th Dr
103rd Dr
103rd Ave
Apartment
Santa Fe Dr
99th Ave
Sun Valley Dr
Grand Ave
102nd Dr
Coggins Dr
101st Ave
100th Dr
Balboa Dr
Mission Dr
Oakmont Dr
Blue Ridge Dr
2018
Project No: S-37
PWSID: 0407099
Sun City Water
Project Area:
Royal Oak Rd
Project Description:
Replace 1 residential, 7 commercial and 1 irrigation services on 103rd Ave, 99th Ave and Santa Fe Dr between 103rd Ave and 99th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
130 65 0 130 260 390 520
Feet
2355 W. Pinnacle Peak Rd. Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

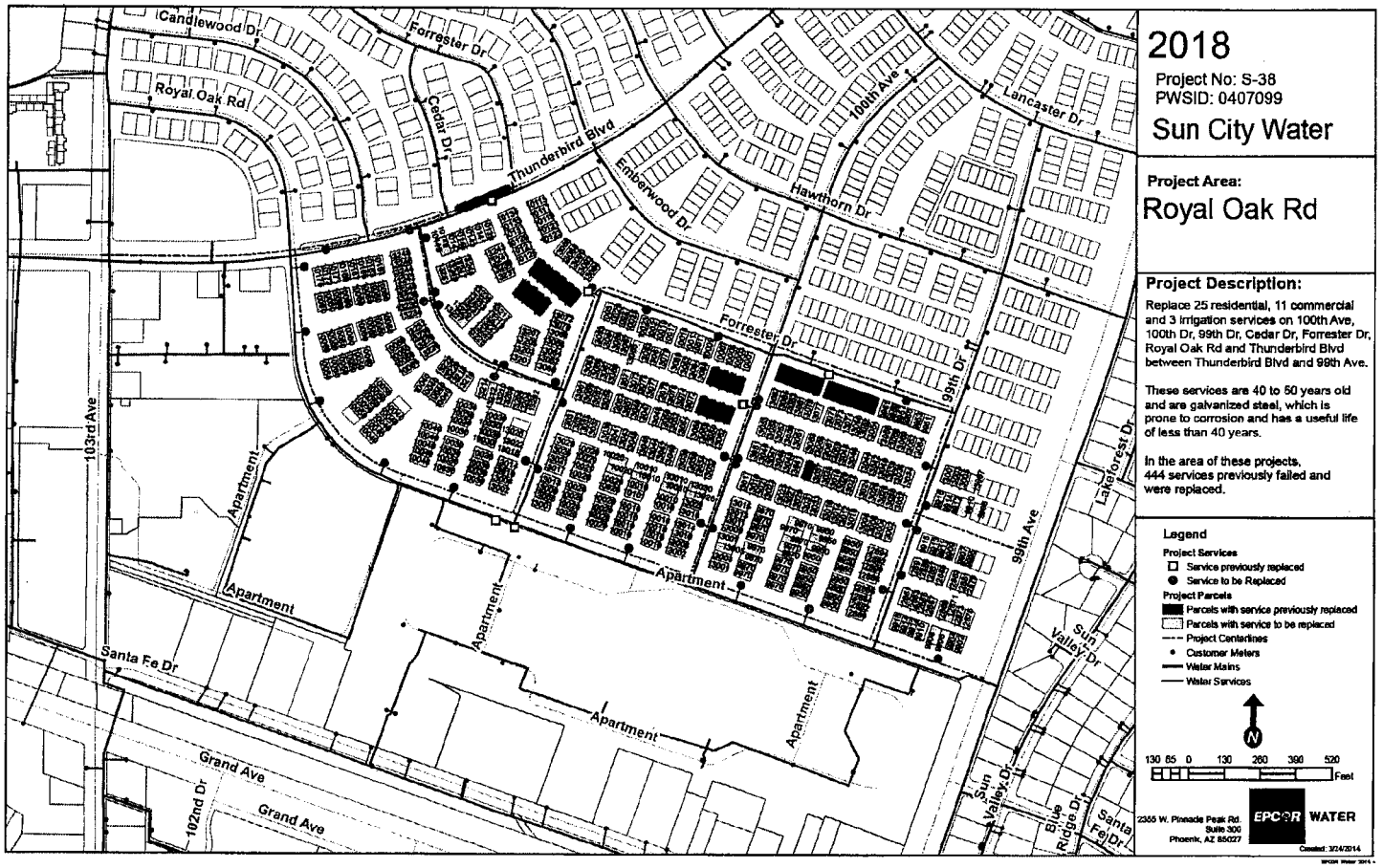
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-37**	Project Location: Royal Oak Rd South

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on 103rd Ave, 99th Ave and Santa Fe Dr between 103rd Ave and 99th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
7	1.5" service	3560	Contractor material and labor to replace services	$ 24,920
2	2" service	3620	Contractor material and labor to replace services	$ 7,240
9	hours	28	Company labor for field oversight and construction project management	$ 252
Subtotal				$ 32,412
General Overhead Rate on Labor and Capital (10%)				$ 3,241
Total Estimated Cost				**$ 35,653**



2018

Project No: S-38
PWSID: 0407099

Sun City Water

Project Area:

Royal Oak Rd

Project Description:

Replace 25 residential, 11 commercial and 3 irrigation services on 100th Ave, 100th Dr, 99th Dr, Cedar Dr, Forrester Dr, Royal Oak Rd and Thunderbird Blvd between Thunderbird Blvd and 98th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

130 65 0 130 260 390 520 Feet

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

EPCOR WATER

Created: 3/24/2014

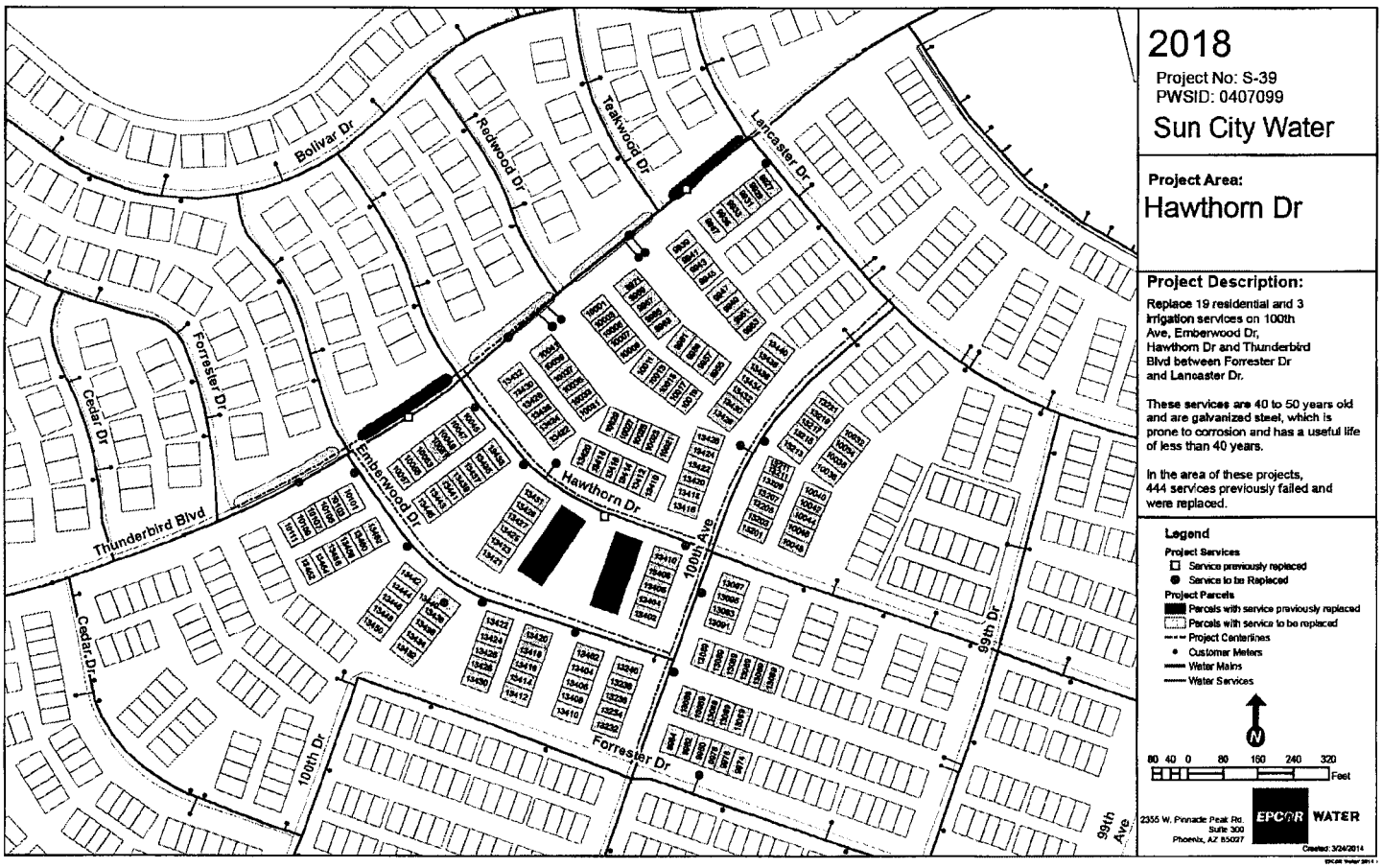
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-38**	Project Location: Royal Oak Rd North	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (39 total on 100th Ave, 100th Dr, 99th Dr, Cedar Dr, Forrester Dr, Royal Oak Rd and Thunderbird Blvd between Thunderbird Bld and 99th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
2	1.5" service	3560	Contractor material and labor to replace services	$ 7,120
37	2" service	3620	Contractor material and labor to replace services	$ 133,940
39	hours	28	Company labor for field oversight and construction project management	$ 1,092
Subtotal				$ 142,152
General Overhead Rate on Labor and Capital (10%)				$ 14,215
Total Estimated Cost				**$ 156,367**



2018

Project No: S-39
PWSID: 0407099

Sun City Water

Project Area:

Hawthorn Dr

Project Description:

Replace 19 residential and 3 irrigation services on 100th Ave, Emberwood Dr, Hawthorn Dr and Thunderbird Blvd between Forrester Dr and Lancaster Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/24/2014

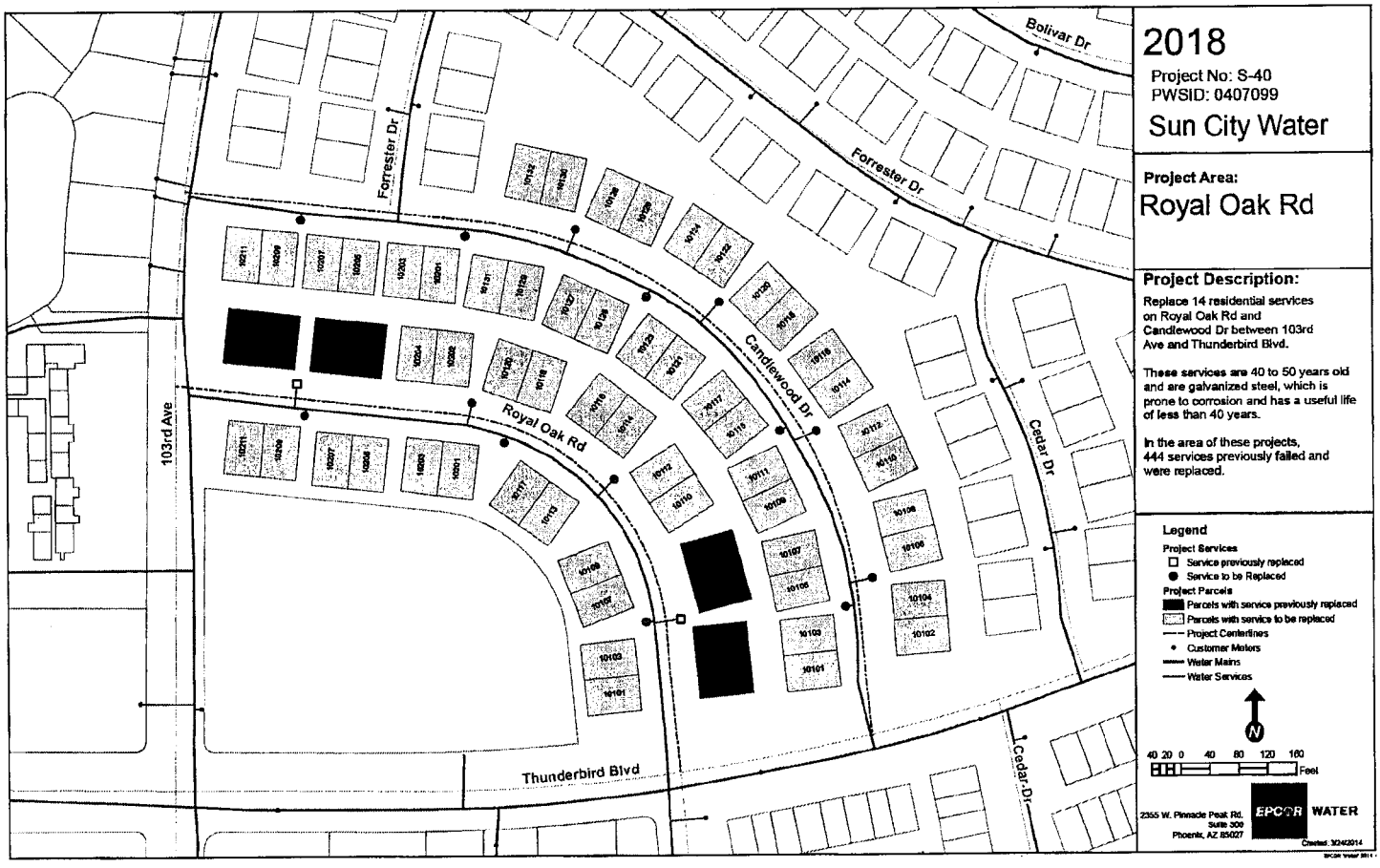
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-39**	Project Location: Hawthorn Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on 100th Ave, Emberwood Dr, Hawthorn Dr and Thunderbird Blvd between Forrester Dr and Lancaster Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
3	1.5" service	3560	Contractor material and labor to replace services	$ 10,680
19	2" service	3620	Contractor material and labor to replace services	$ 68,780
22	hours	28	Company labor for field oversight and construction project management	$ 616
Subtotal				$ 80,076
General Overhead Rate on Labor and Capital (10%)				$ 8,008
Total Estimated Cost				**$ 88,084**



2018

Project No: S-40
PWSID: 0407099

Sun City Water

Project Area:

Royal Oak Rd

Project Description:

Replace 14 residential services on Royal Oak Rd and Candlewood Dr between 103rd Ave and Thunderbird Blvd.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

40 20 0 40 80 120 160 Feet

2355 W. Pinnacle Peak Rd.
Suite 200
Phoenix, AZ 85027

EPCOR WATER

Created: 3/24/2014

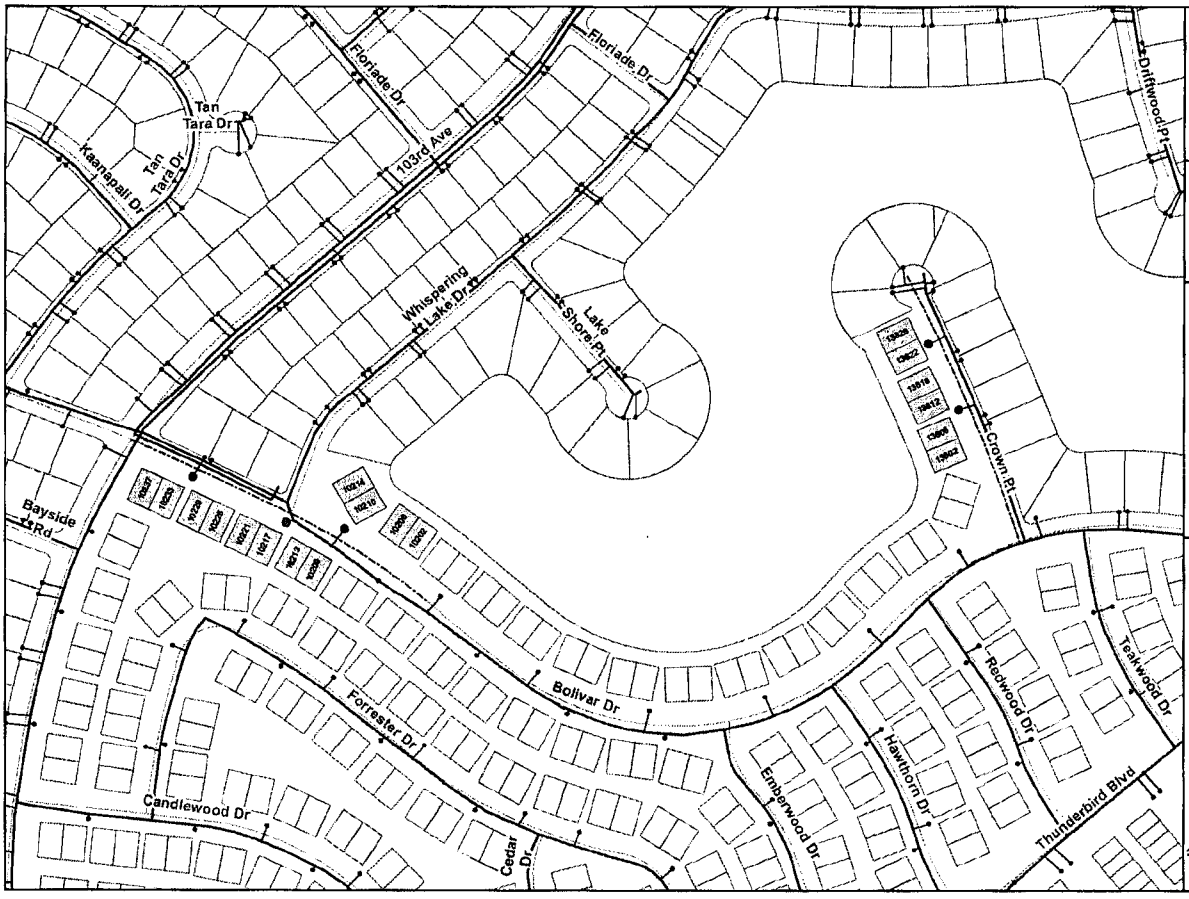
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-40**	Project Location: Candlewood Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (14 total on Royal Oak Rd and Candlewood Dr between 103rd Ave and Thunderbird Blvd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
14	1.5" service	3560	Contractor material and labor to replace services	$ 49,840
14	hours	28	Company labor for field oversight and construction project management	$ 392
Subtotal				$ 50,232
General Overhead Rate on Labor and Capital (10%)				$ 5,023
Total Estimated Cost				**$ 55,255**



2018

Project No: S-41
PWSID: 0407099

Sun City Water

Project Area:

Bolivar Dr

Project Description:

Replace 5 residential services on Bolivar Dr and Crown Pt between 103rd Ave and Teakwood Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

75 37.5 0 75 150 225 300 Feet

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

EPCOR WATER

Created: 3/24/2014

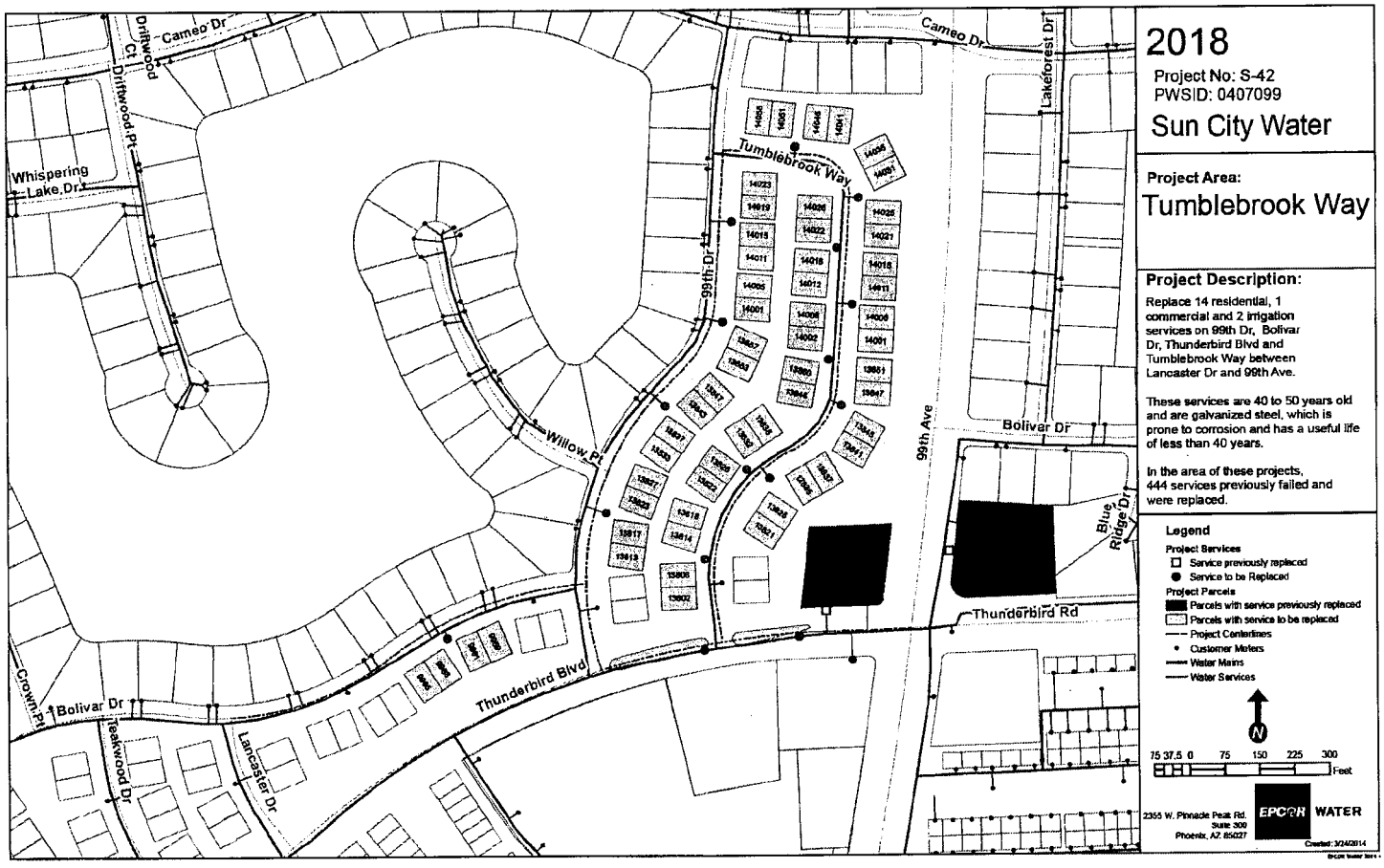
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-41**	Project Location: Bolivar Dr	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (5 total on Bolivar Dr and Crown Pt between 103rd Ave and Teakwood Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	1.5" service	3560	Contractor material and labor to replace services	$ 17,800
5	hours	28	Company labor for field oversight and construction project management	$ 140
Subtotal				$ 17,940
General Overhead Rate on Labor and Capital (10%)				$ 1,794
Total Estimated Cost				$ **19,734**


Cameo Dr
Driftwood Ct
Driftwood Pt
Whispering Lake Dr
Tumblebrook Way
99th Dr
Willow Pt
Lakeforest Dr
99th Ave
Bolivar Dr
Blue Ridge Dr
Thunderbird Rd
Thunderbird Blvd
Crown Pt
Teakwood Dr
Lancaster Dr
2018
Project No: S-42
PWSID: 0407099
Sun City Water
Project Area:
Tumblebrook Way
Project Description:
Replace 14 residential, 1 commercial and 2 irrigation services on 99th Dr, Bolivar Dr, Thunderbird Blvd and Tumblebrook Way between Lancaster Dr and 99th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

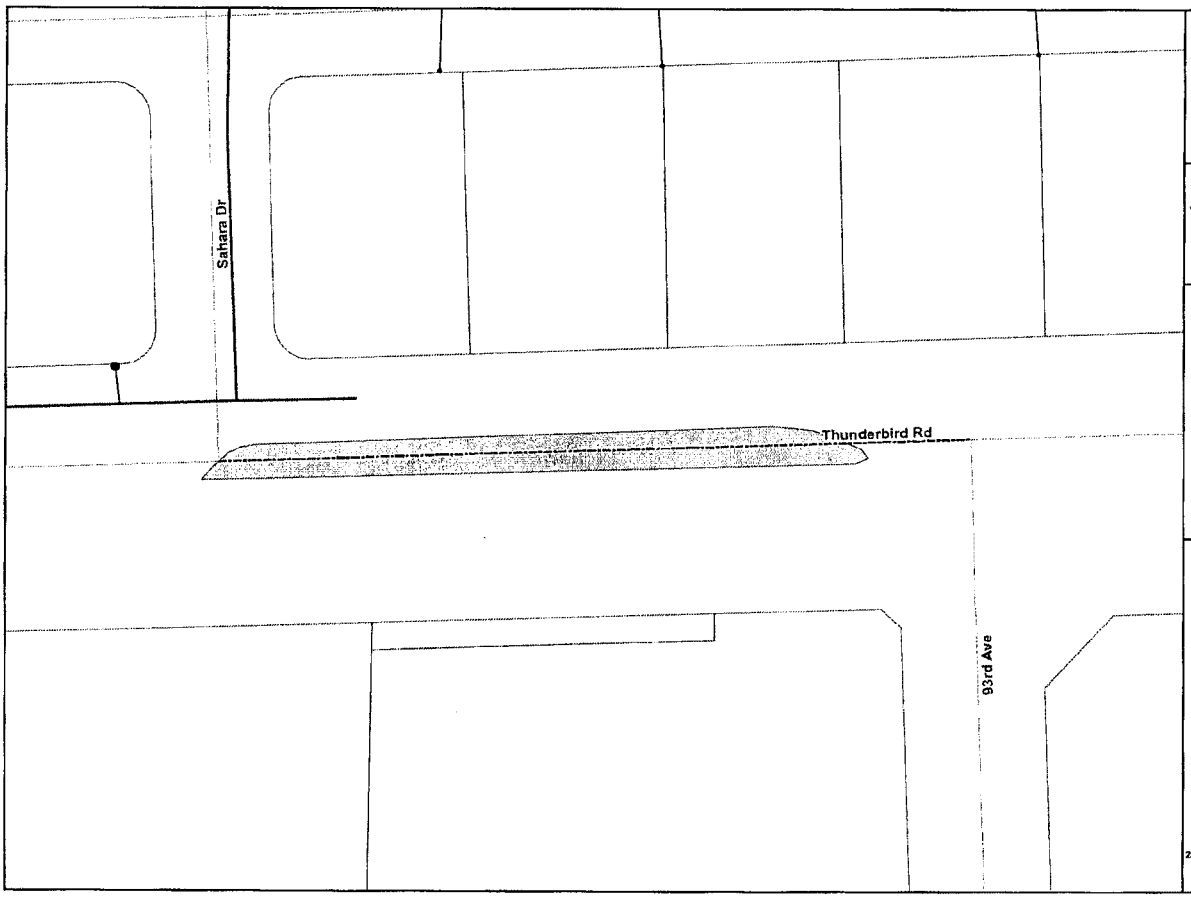
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2018 S-42**	Tumblebrook Way

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (17 total on 99th Dr, Bolivar Dr, Thunderbird Blvd and Tumblebrook Way between LancasterDr and 99th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
17	1.5" service	3560	Contractor material and labor to replace services	$ 60,520
17	hours	28	Company labor for field oversight and construction project management	$ 476
Subtotal				$ 60,996
General Overhead Rate on Labor and Capital (10%)				$ 6,100
Total Estimated Cost				**$ 67,096**



2018

Project No: S-43
PWSID: 0407099

Sun City Water

Project Area:

Thunderbird Rd

Project Description:

Replace 1 irrigation service on Thunderbird Rd between Sahara Dr and 93rd Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

10 5 0 10 20 30 40
Feet

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

EPCOR WATER

Created: 3/24/2014

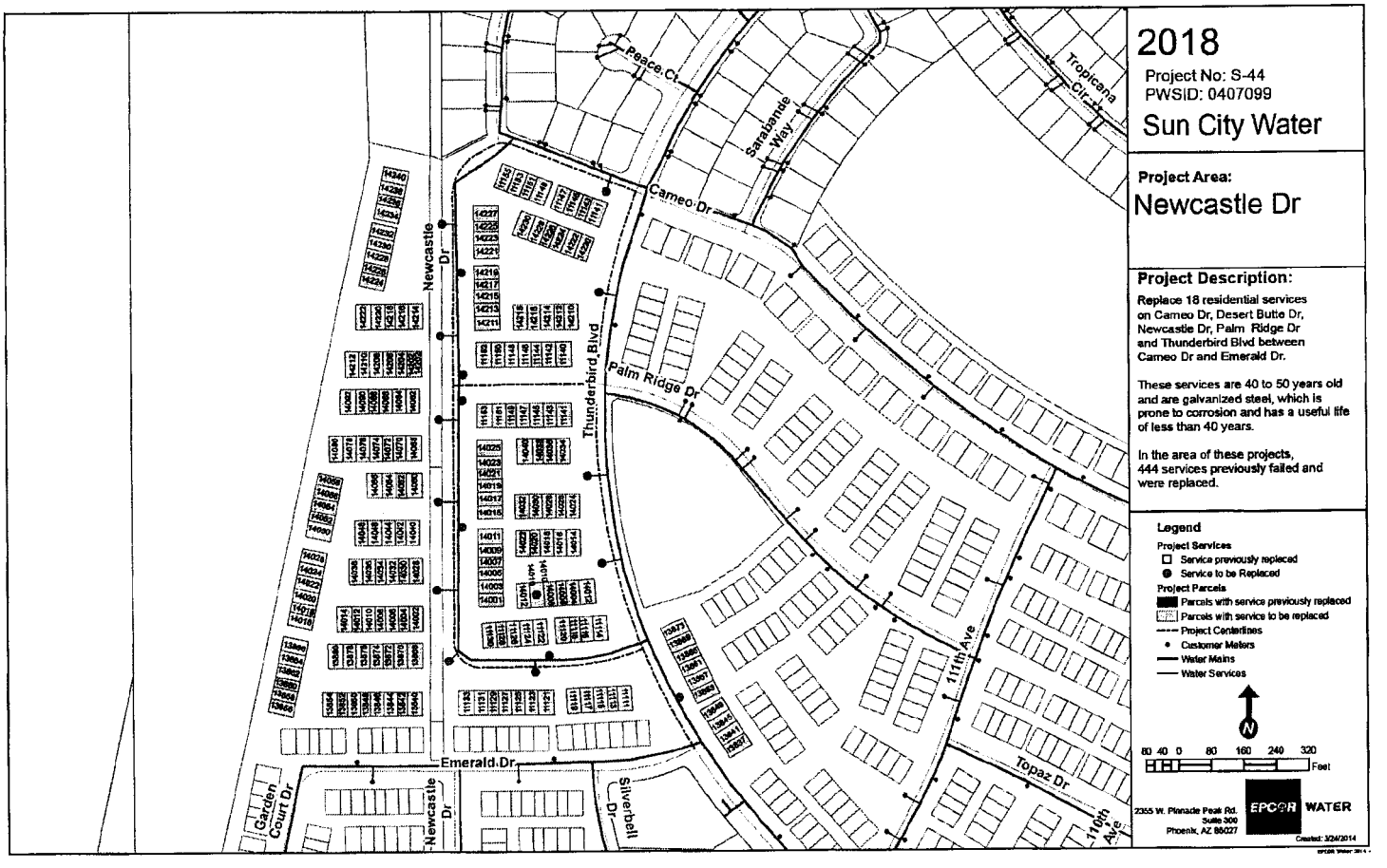
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-43**	Project Location: Thunderbird Rd	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (1 total on Thunderbird Rd between Sahara Dr and 93rd Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	1.5" service	3560	Contractor material and labor to replace services	$ 3,560
1	hours	28	Company labor for field oversight and construction project management	$ 28
Subtotal				$ 3,588
General Overhead Rate on Labor and Capital (10%)				$ 359
Total Estimated Cost				**$ 3,947**



2018

Project No: S-44
PWSID: 0407099

Sun City Water

Project Area:

Newcastle Dr

Project Description:

Replace 18 residential services on Cameo Dr, Desert Butte Dr, Newcastle Dr, Palm Ridge Dr and Thunderbird Blvd between Cameo Dr and Emerald Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/24/2014

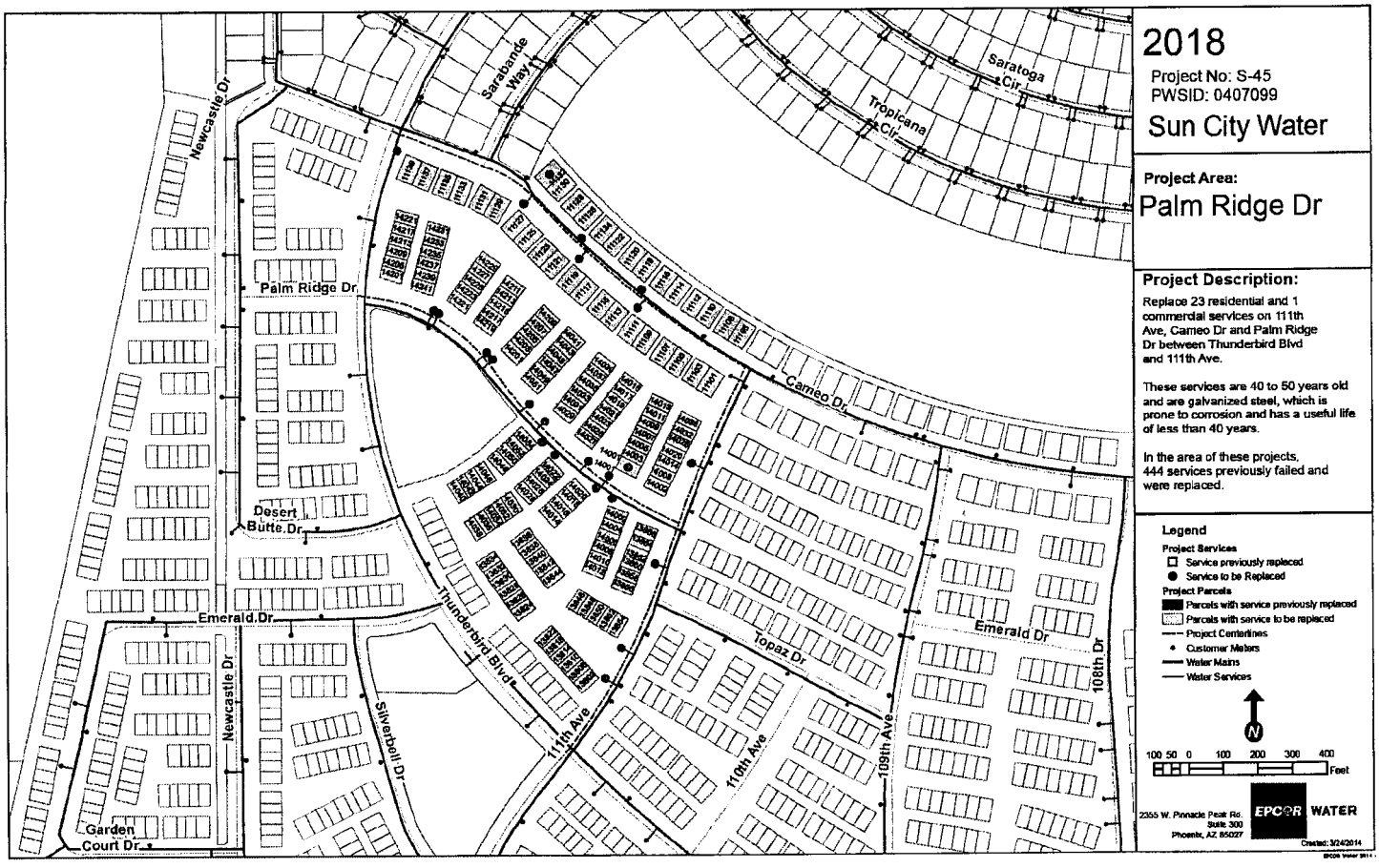
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-44**	Project Location: Newcastle Dr	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (18 total on Cameo Dr, Desert Butte Dr, Newcastle Dr, PalmRidge Dr and Thunderbird Blvd between Cameo Dr and Emerald Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
1	1.5" service	3560	Contractor material and labor to replace services	$ 3,560
17	2" service	3620	Contractor material and labor to replace services	$ 61,540
18	hours	28	Company labor for field oversight and construction project management	$ 504
Subtotal				$ 65,604
General Overhead Rate on Labor and Capital (10%)				$ 6,560
Total Estimated Cost				$ **72,164**


Newcastle Dr
Sarabande Way
Saratoga Cir
Tropicana Cir
Palm Ridge Dr
Cameo Dr
Desert Butte Dr
Emerald Dr
Thunderbird Blvd
Topaz Dr
Emerald Dr
108th Dr
Newcastle Dr
Silverbell Dr
111th Ave
110th Ave
109th Ave
Garden Court Dr
2018
Project No: S-45
PWSID: 0407099
Sun City Water
Project Area:
Palm Ridge Dr
Project Description:
Replace 23 residential and 1 commercial services on 111th Ave, Cameo Dr and Palm Ridge Dr between Thunderbird Blvd and 111th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
100 50 0 100 200 300 400
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

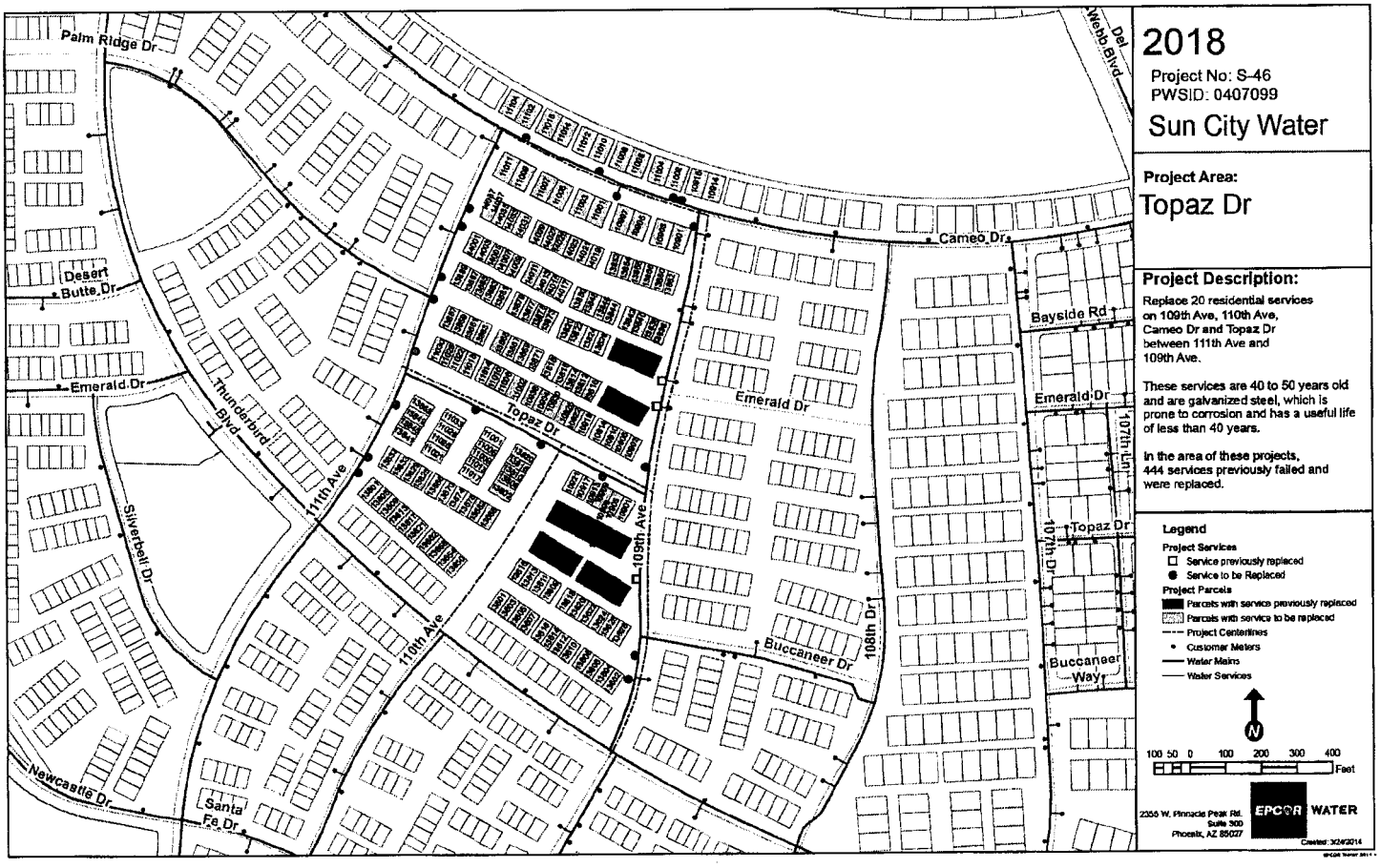
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2018 S-45**	Palm Ridge Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (24 total on 111th Ave, Cameo Dr and Palm Ridge Dr between Thunderbird Blvd and 111th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	1.5" service	3560	Contractor material and labor to replace services	$ 28,480
16	2" service	3620	Contractor material and labor to replace services	$ 57,920
24	hours	28	Company labor for field oversight and construction project management	$ 672
Subtotal				$ 87,072
General Overhead Rate on Labor and Capital (10%)				$ 8,707
Total Estimated Cost				**$ 95,779**



2018

Project No: S-46
PWSID: 0407099

Sun City Water

Project Area:

Topaz Dr

Project Description:

Replace 20 residential services on 109th Ave, 110th Ave, Cameo Dr and Topaz Dr between 111th Ave and 109th Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

100 50 0 100 200 300 400 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

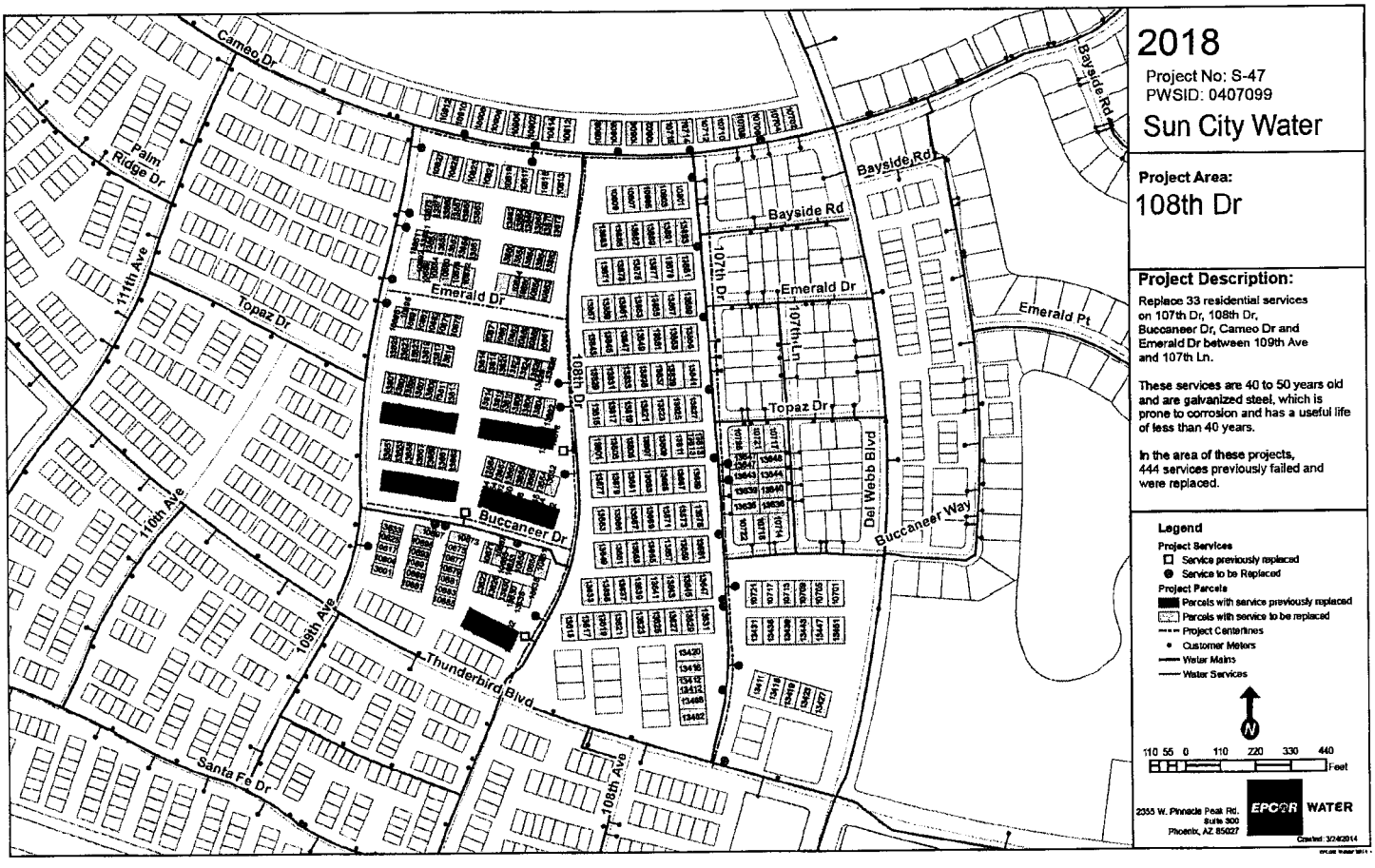
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2018 S-46**	Topaz Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (20 total on 109th Ave, 110th Ave, Cameo Dr and Topaz Dr between 111th Ave and 109th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
6	1.5" service	3560	Contractor material and labor to replace services	$ 21,360
14	2" service	3620	Contractor material and labor to replace services	$ 50,680
20	hours	28	Company labor for field oversight and construction project management	$ 560
Subtotal				$ 72,600
General Overhead Rate on Labor and Capital (10%)				$ 7,260
Total Estimated Cost				**$ 79,860**


Cameo Dr
Palm Ridge Dr
111th Ave
Topaz Dr
Emerald Dr
108th Dr
Buccaneer Dr
110th Ave
109th Ave
Thunderbird Blvd
Santa Fe Dr
108th Ave
Bayside Rd
107th Dr
Emerald Dr
107th Ln
Topaz Dr
Del Webb Blvd
Buccaneer Way
Emerald Pt
Bayside Rd
2018
Project No: S-47
PWSID: 0407099
Sun City Water
Project Area:
108th Dr
Project Description:
Replace 33 residential services on 107th Dr, 108th Dr, Buccaneer Dr, Cameo Dr and Emerald Dr between 109th Ave and 107th Ln.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
110 55 0 110 220 330 440
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2018 S-47**	108th Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (33 total on 107th Dr, 108th Dr, Buccaneer Dr, Cameo Dr and Emerald Dr between 109th Ave and 107th Ln.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
8	1.5" service	3560	Contractor material and labor to replace services	$ 28,480
25	2" service	3620	Contractor material and labor to replace services	$ 90,500
33	hours	28	Company labor for field oversight and construction project management	$ 924
Subtotal				$ 119,904
General Overhead Rate on Labor and Capital (10%)				$ 11,990
Total Estimated Cost				**$ 131,894**

2018

Project No: S-48
PWSID: 0407099

Sun City Water

Project Area:

Buccaneer Way

Project Description:

Replace 5 residential and 3 irrigation services on Bayside Rd, Buccaneer Way and Del Webb Blvd between Cameo Dr and Buccaneer Way

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

90 45 0 90 180 270 360 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-48**	Project Location: Buccaneer Way	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (8 total on Bayside Rd, Buccaneer Way and Del Webb Blvd between Cameo Dr and Buccaneer Way.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
7	1.5" service	3560	Contractor material and labor to replace services	$ 24,920
1	2" service	3620	Contractor material and labor to replace services	$ 3,620
8	hours	28	Company labor for field oversight and construction project management	$ 224
Subtotal				$ 28,764
General Overhead Rate on Labor and Capital (10%)				$ 2,876
Total Estimated Cost				**$ 31,640**

Camelot Cir
El Capitan Cir
Roundelay Cir
Del Webb Blvd
Saratoga Cir
Tropicana Cir
Cameo Dr
Bayside Rd
Bolivar Dr
Sierra Dawn Dr
Florlade Dr
2018
Project No: S-49
PWSID: 0407099
Sun City Water
Project Area:
Tropicana Cir
Project Description:
Replace 29 residential and 3 irrigation services on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
75 37.5 0 75 150 225 300
Feet
2355 W. Pinnacle Peak Rd. Suite 300 Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

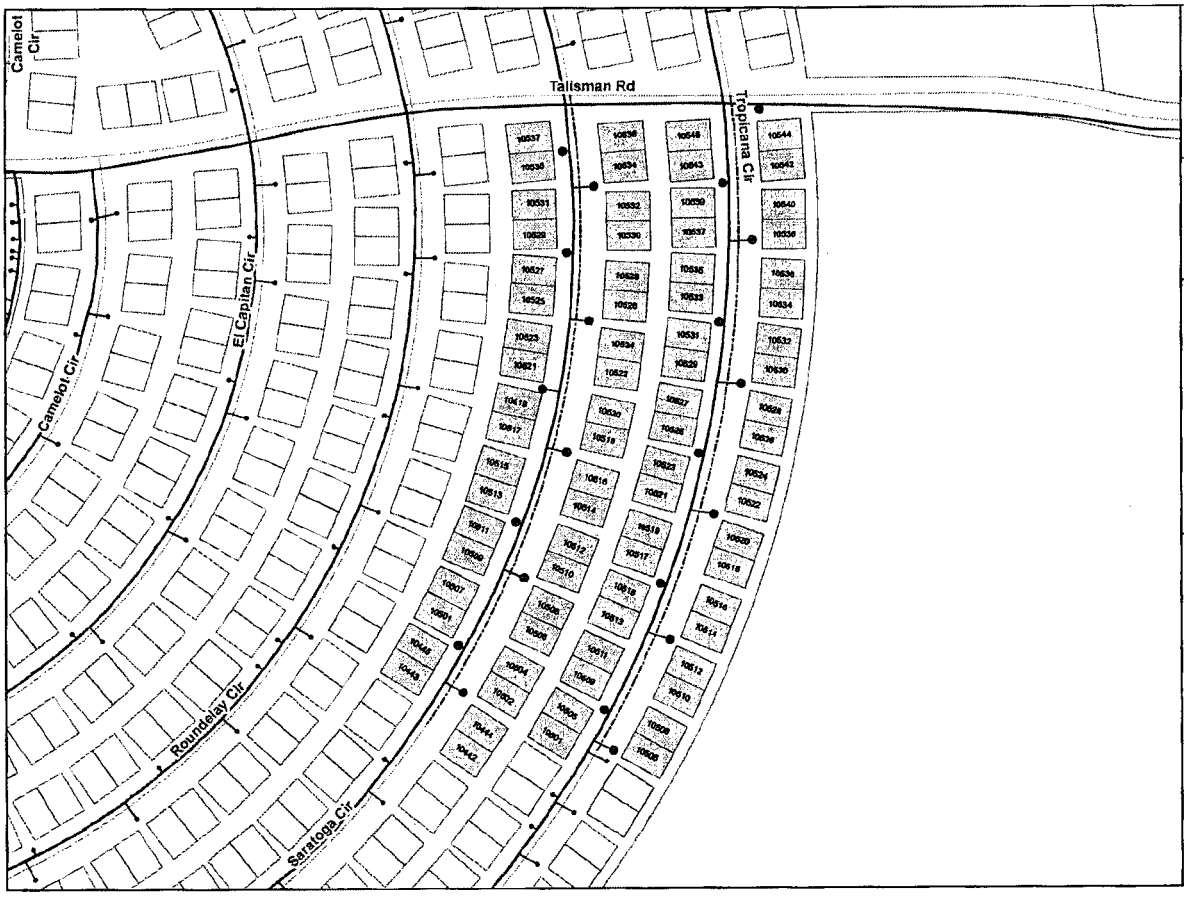
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-49**	Project Location: Tropicana Cir South	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (32 total on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
32	1.5" service	3560	Contractor material and labor to replace services	$ 113,920
32	hours	28	Company labor for field oversight and construction project management	$ 896
Subtotal				$ 114,816
General Overhead Rate on Labor and Capital (10%)				$ 11,482
Total Estimated Cost				**$ 126,298**



2018

Project No: S-50
PWSID: 0407099

Sun City Water

Project Area:

Tropicana Cir

Project Description:

Replace 22 residential services on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

60 30 0 60 120 180 240 Feet

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

EPCOR WATER

Created: 3/24/2014

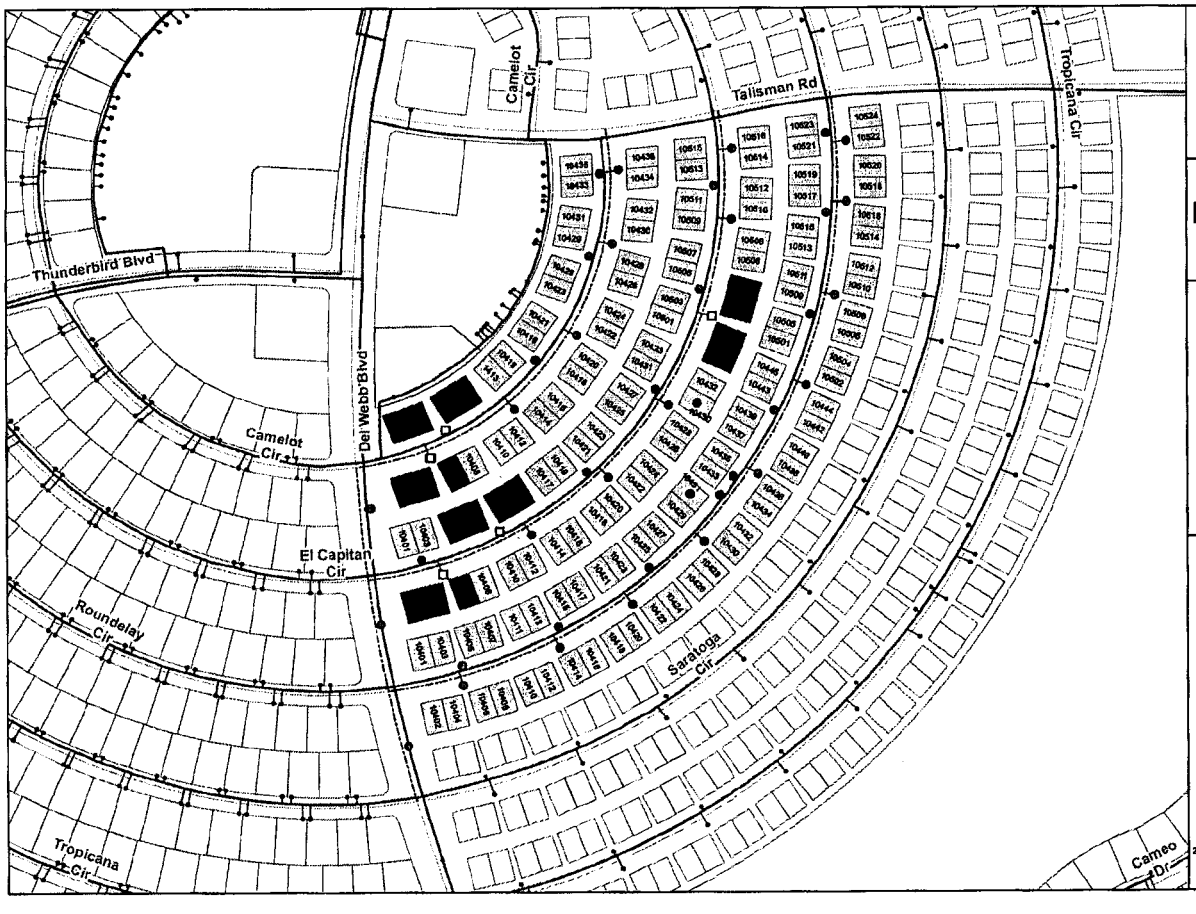
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2018 S-50**	Project Location: Tropicana Cir North	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (22 total on Del Webb Blvd, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
22	1.5" service	3560	Contractor material and labor to replace services	$ 78,320
22	hours	28	Company labor for field oversight and construction project management	$ 616
Subtotal				$ 78,936
General Overhead Rate on Labor and Capital (10%)				$ 7,894
Total Estimated Cost				**$ 86,830**



2018

Project No: S-51
PWSID: 0407099

Sun City Water

Project Area:

El Capitan Cir

Project Description:

Replace 38 residential and 3 irrigation services on Camelot Cir, Del Webb Blvd, El Capitan Cir and Roundelay Cir between Del Webb Blvd and Talisman Rd.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

80 40 0 80 160 240 320
Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2018 S-51**	El Capitan Cir

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (41 total on Camelot Cir, Del Webb Blvd, El Capitan Cir and Roundelay Cir between Del Webb Blvd and Talisman Rd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
41	1.5" service	3560	Contractor material and labor to replace services	$ 145,960
41	hours	28	Company labor for field oversight and construction project management	$ 1,148
Subtotal				$ 147,108
General Overhead Rate on Labor and Capital (10%)				$ 14,711
Total Estimated Cost				**$ 161,819**

Sun City – PWS ID No. 07-099

SIB PLANT TABLE I, 1-4

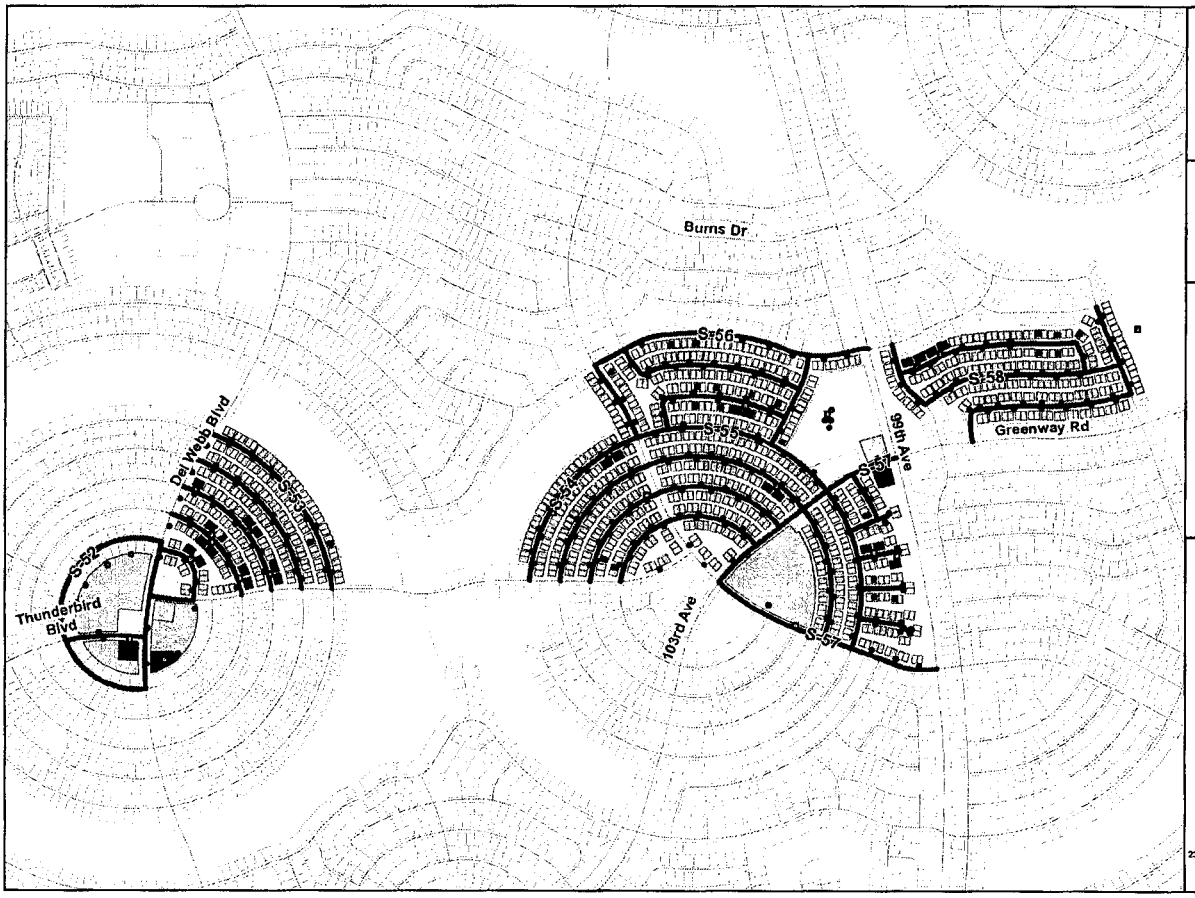
2019 Service Line Replacements

Information to be included with SIB-Eligible Project Notification

	NARUC Acct No. (SIB-eligible plant)	Replacement Plant Description (SIB-eligible plant)					Site (location description)	Replacement Plant			1. Provide narrative why Replacement Plant is necessary - replacement of existing plant that has exceeded its designated useful life and has worn out or is in deteriorating condition due to no fault of the utility - replacement of existing plant to address excessive water loss (10% or more) - replacement of existing plant for other reasons supported by persuasive showing by utility 2. Provide narrative explaining why this segment of plant is a priority. 3. Provide narrative explaining how replacing this plant will benefit existing customers. 4. Provide affirmation that Replacement Plant does not include the costs for extending or expanding facilities to serve new customers. 5. Provides reference to related page No. in the submitted detailed Engineering Analysis supporting the need for SIB. Engineering Analysis shall also include narrative explaining the utility's systematic assessment, inspection, maintenance, and repair/replacement program.
Project No.	**331 T&D Mains** **333 Services** **334 Meters**	Description	Pipe length/ Quantity	Diameter/ Size	Material	Installed Cost/Unit (Estimated)		Expected In-Service Date	Estimated Subtotal Cost (by NARUC Acct No)	Estimated Subtotal Cost (by project)	
S-52	333	service lines	10	5-1.5" 5-2"	Copper	1.5"-$3,947 2"-$4,013	Del Webb Blvd	12/2019	n/a	$39,798	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total at the intersection of Del Webb Blvd, Thunderbird Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-52 in Exhibit CC-1-B for more detail.
S-53	333	service lines	49	1.5"	Copper	1.5"-$3,947	Saratoga Circle	12/2019	n/a	$193,393	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (49 total on Camelot Cir, El Capitan Cir, Roundelay Cir, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for

											existing customers and not related to new growth. See Section 1 narrative and Map No. S-53 in Exhibit CC-1-B for more detail.
S-54	333	service lines	41	1.5"	Copper	1.5"-$3,947	Kingswood Cir West	12/2019	n/a	$161,819	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (41 total on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Talisman Rd and Boswell Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-54 in Exhibit CC-1-B for more detail.
S-55	333	service lines	43	42-1.5" 1-2"	Copper	1.5"-$3,947 2"-$4,013	Kingswood Cir East	12/2019	n/a	$169,778	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (43 total on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Boswell Blvd and 103rd Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-55 in Exhibit CC-1-B for more detail.
S-56	333	service lines	53	49-1.5" 4-2"	Copper	1.5"-$3,947 2"-$4,013	Shasta Dr	12/2019	n/a	$209,444	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (53 total on Boswell Blvd, Desert Rose Dr, Pleasant Valley Rd, Sandstone Dr and Shasta Dr between Boswell Blvd and 99th Ave.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-56 in Exhibit CC-1-B for more detail.

S-57	333	service lines	44	42-1.5" 2-2"	Copper	1.5"-$3,947 2"-$4,013	Prairie Hills Cir	12/2019	n/a	$173,791	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (44 total on 103rd Ave, Boswell Blvd, Kingswood Cir, Newport Dr, Pineridge Dr, Prairie Hills Cir, Raintree Dr and Spruce Dr between 103rd Ave and Boswell Blvd.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-57 in Exhibit CC-1-B for more detail.
S-58	333	service lines	50	49-1.5" 1-2"	Copper	1.5"-$3,947 2"-$4,013	Sandstone Dr	12/2019	n/a	$197,406	Replace aging services with copper service lines to reduce water leaks and emergency repairs. (50 total on Cameo Dr, Lakeforest Dr, Long Hills Dr, Sandstone Dr and Shasta Dr between 99th Ave and Cameo Dr.) The services are old and are failing at a high rate. These services are a priority because they are galvanized steel pipe and they were installed 40 to 50 years ago. Galvanized pipe is prone to corrosion and has been shown to have a useful life of less than 40 years. In the area of these projects, 444 services previously failed and were replaced. Replacing the services will help reduce system water loss and improve customer pressure and flow. The service line replacements are for existing customers and not related to new growth. See Section 1 narrative and Map No. S-58 in Exhibit CC-1-B for more detail.
Total			290							$1,145,430	



2019

Project No: N/A
PWSID: 0407099

Sun City Water

Project Area:

Sun City 2019 Project Areas

Project Description:

Replace 277 residential, 8 irrigation and 9 commercial services.

Legend

Services

Services

- COPPER
- COMMERCIAL
- IRRIGATION
- RESIDENTIAL

Project Parcels

- Parcels with service previously replaced
- Parcels with service to be replaced

N

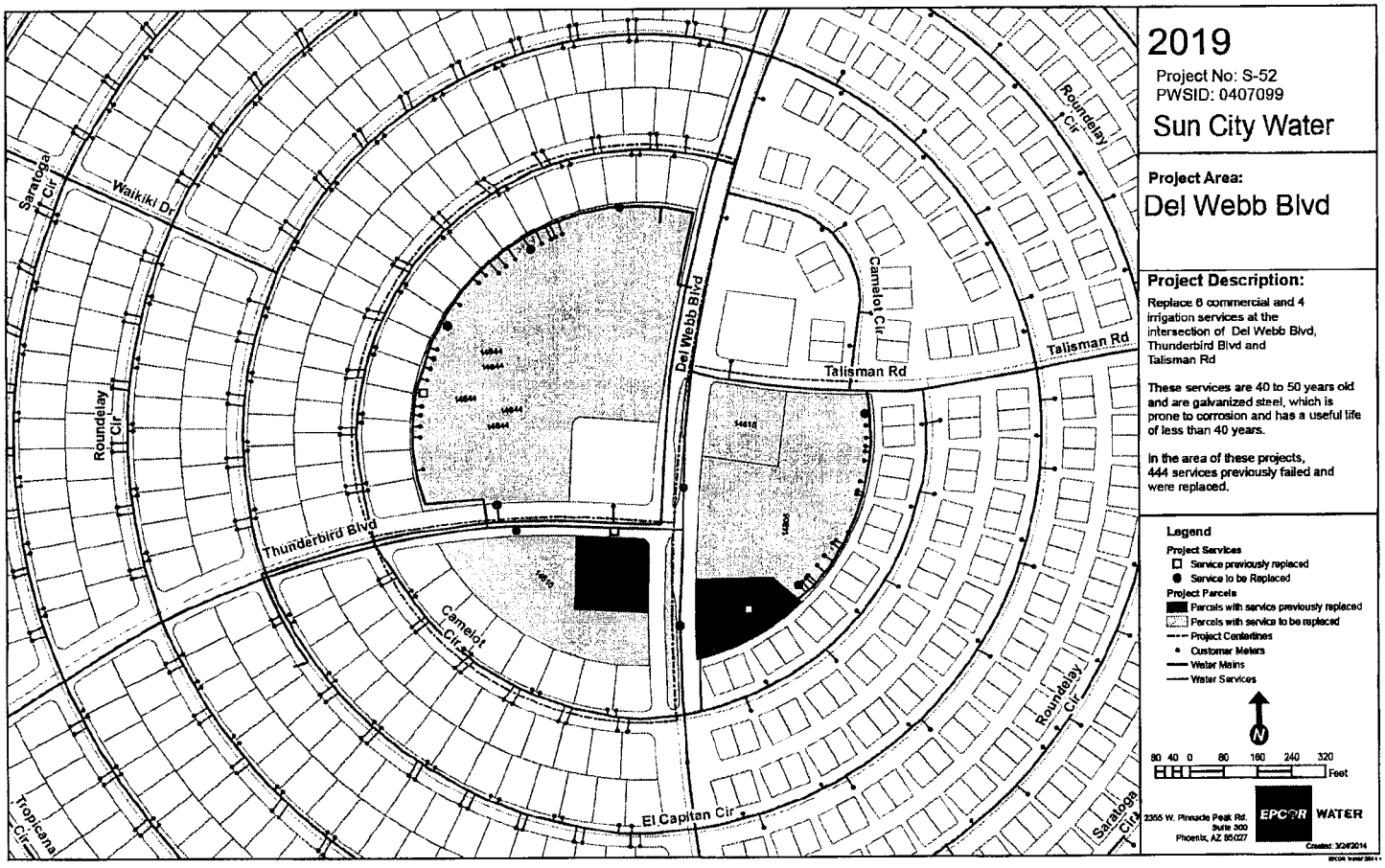
330 165 0 330 660 990 1,320

Feet

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

EPCOR WATER

Created: 3/31/2014


2019
Project No: S-52
PWSID: 0407099
Sun City Water
Project Area:
Del Webb Blvd
Project Description:
Replace 6 commercial and 4 irrigation services at the intersection of Del Webb Blvd, Thunderbird Blvd and Talisman Rd
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
80 40 0 80 160 240 320
Feet
EPCOR WATER
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
Created: 3/24/2014
Waikiki Dr
Saratoga Cir
Roundelay Cir
Thunderbird Blvd
Del Webb Blvd
Camelot Cir
Talisman Rd
El Capitan Cir
Tropicana Cir

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

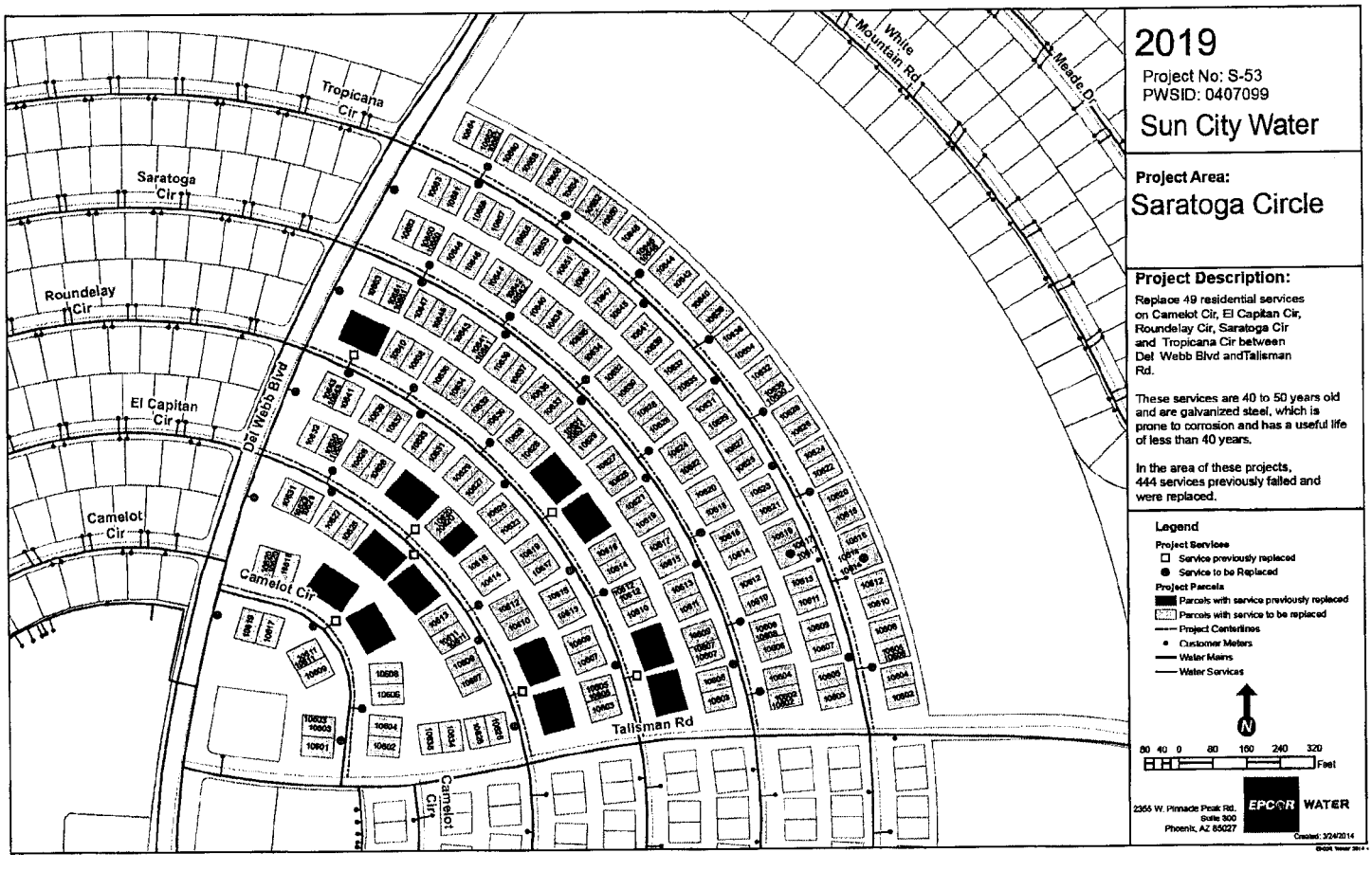
Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2019 S-52**	Del Webb Blvd

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (10 total at the intersection of Del Webb Blvd, Thunderbird Blvd and Talisman Rd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
5	1.5" service	3560	Contractor material and labor to replace services	$ 17,800
5	2" service	3620	Contractor material and labor to replace services	$ 18,100
10	hours	28	Company labor for field oversight and construction project management	$ 280
Subtotal				$ 36,180
General Overhead Rate on Labor and Capital (10%)				$ 3,618
Total Estimated Cost				**$ 39,798**



2019

Project No: S-53
PWSID: 0407099

Sun City Water

Project Area:

Saratoga Circle

Project Description:

Replace 49 residential services on Camelot Cir, El Capitan Cir, Roundelay Cir, Saratoga Cir and Tropicana Cir between Del Webb Blvd andTalisman Rd.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

80 40 0 80 160 240 320 Feet

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

EPCOR WATER

Created: 3/24/2014

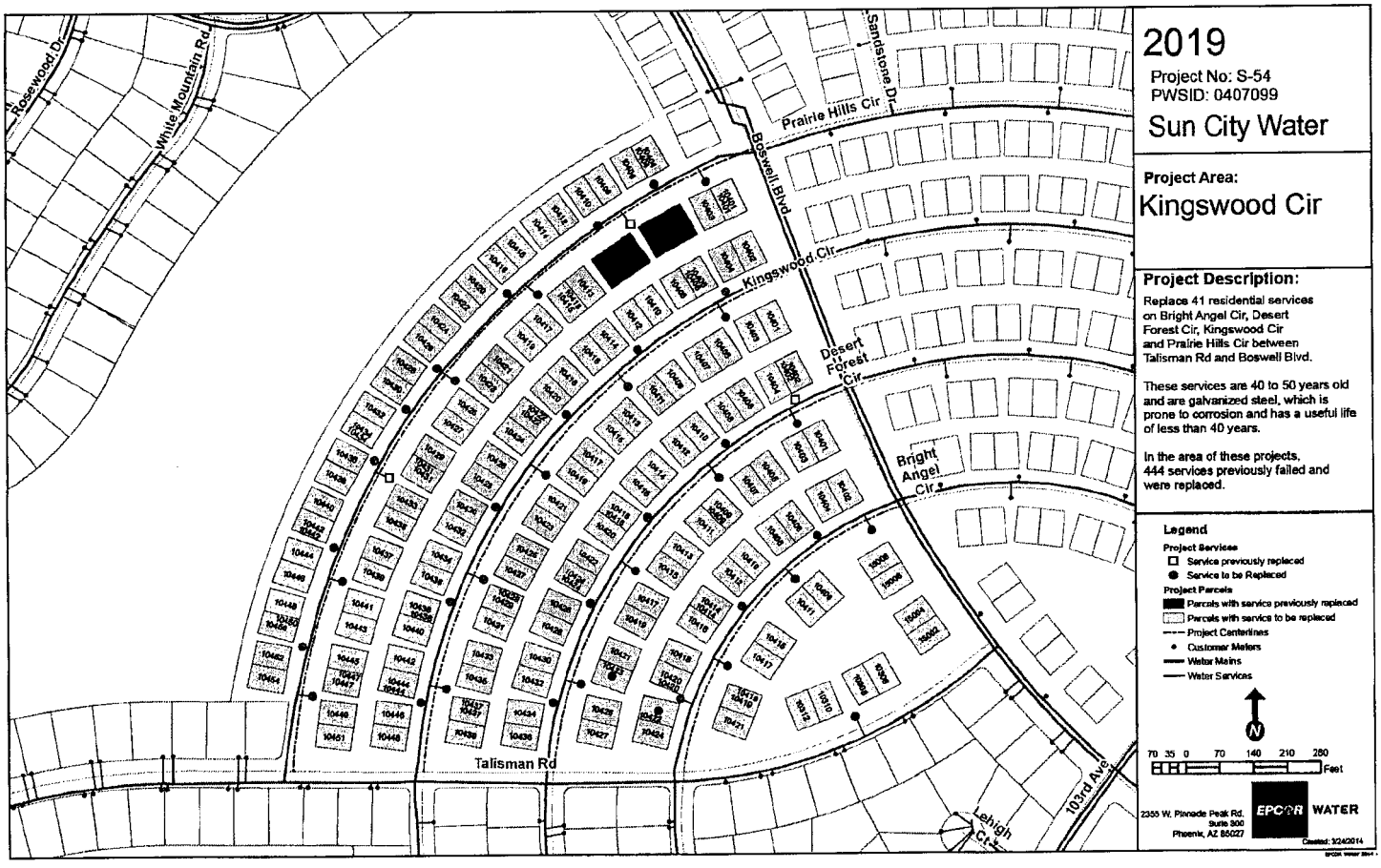
EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2019 S-53**	Project Location: Saratoga Circle	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (49 total on Camelot Cir, El Capitan Cir, Roundelay Cir, Saratoga Cir and Tropicana Cir between Del Webb Blvd and Talisman Rd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
49	1.5" service	3560	Contractor material and labor to replace services	$ 174,440
49	hours	28	Company labor for field oversight and construction project management	$ 1,372
Subtotal				$ 175,812
General Overhead Rate on Labor and Capital (10%)				$ 17,581
Total Estimated Cost				**$ 193,393**



2019

Project No: S-54
PWSID: 0407099

Sun City Water

Project Area:

Kingswood Cir

Project Description:

Replace 41 residential services on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Talisman Rd and Boswell Blvd.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

70 35 0 70 140 210 280 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate				Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2019 S-54**	Project Location: Kingswood Cir West	

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (41 total on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Talisman Rd and Boswell Blvd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
41	1.5" service	3560	Contractor material and labor to replace services	$ 145,960
41	hours	28	Company labor for field oversight and construction project management	$ 1,148
Subtotal				$ 147,108
General Overhead Rate on Labor and Capital (10%)				$ 14,711
Total Estimated Cost				**$ 161,819**

2019

Project No: S-55
PWSID: 0407099

Sun City Water

Project Area:

Kingswood Cir

Project Description:

Replace 42 residential and 1 irrigation services on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Boswell Blvd and 103rd Ave.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

70 35 0 70 140 210 280 Feet

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

EPCOR WATER

Created: 3/24/2014

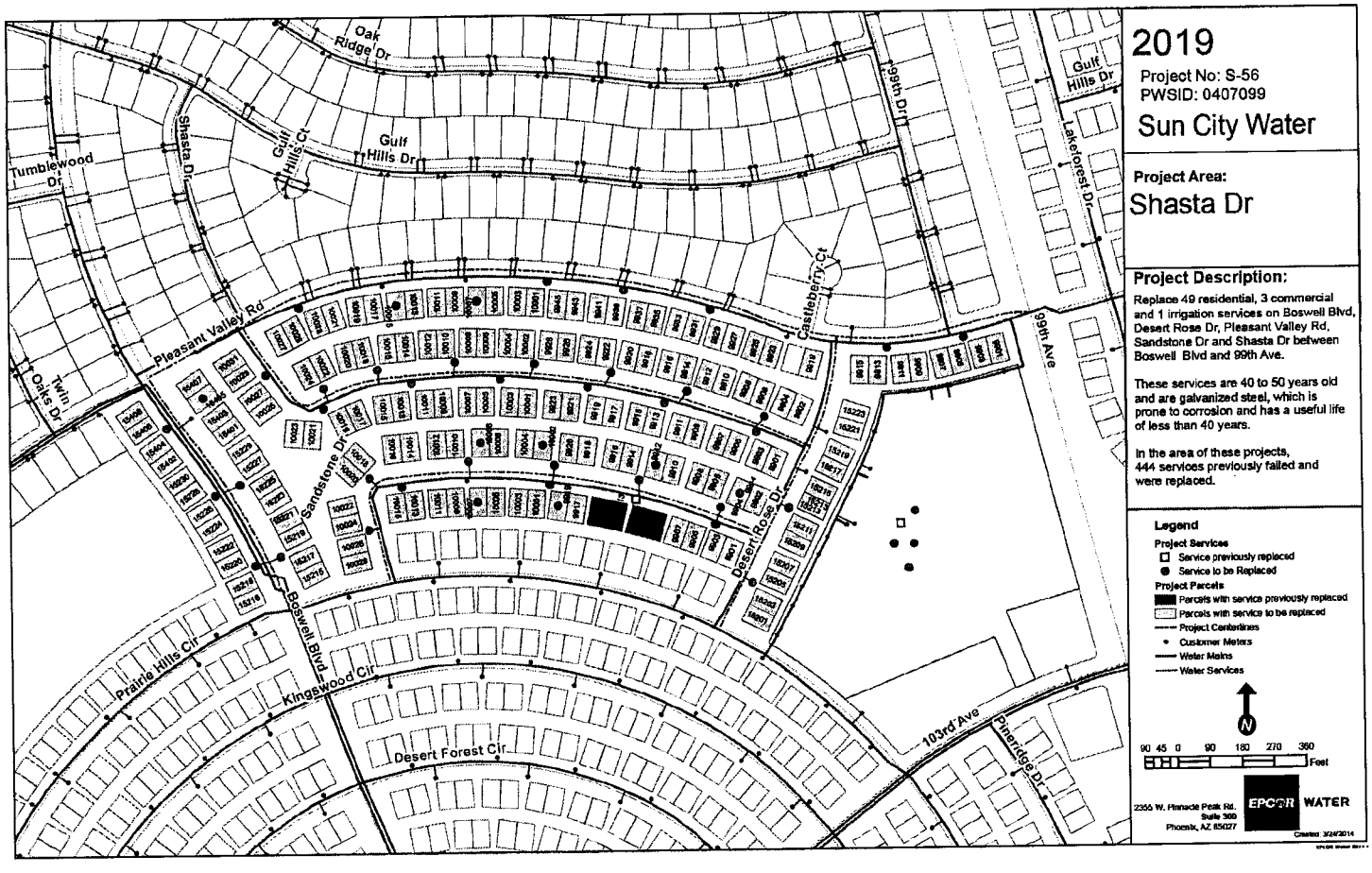
EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2019 S-55**	Project Location: Kingswood Cir East

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (43 total on Bright Angel Cir, Desert Forest Cir, Kingswood Cir and Prairie Hills Cir between Boswell Blvd and 103rd Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
42	1.5" service	3560	Contractor material and labor to replace services	$ 149,520
1	2" service	3620	Contractor material and labor to replace services	$ 3,620
43	hours	28	Company labor for field oversight and construction project management	$ 1,204
Subtotal				$ 154,344
General Overhead Rate on Labor and Capital (10%)				$ 15,434
Total Estimated Cost				**$ 169,778**

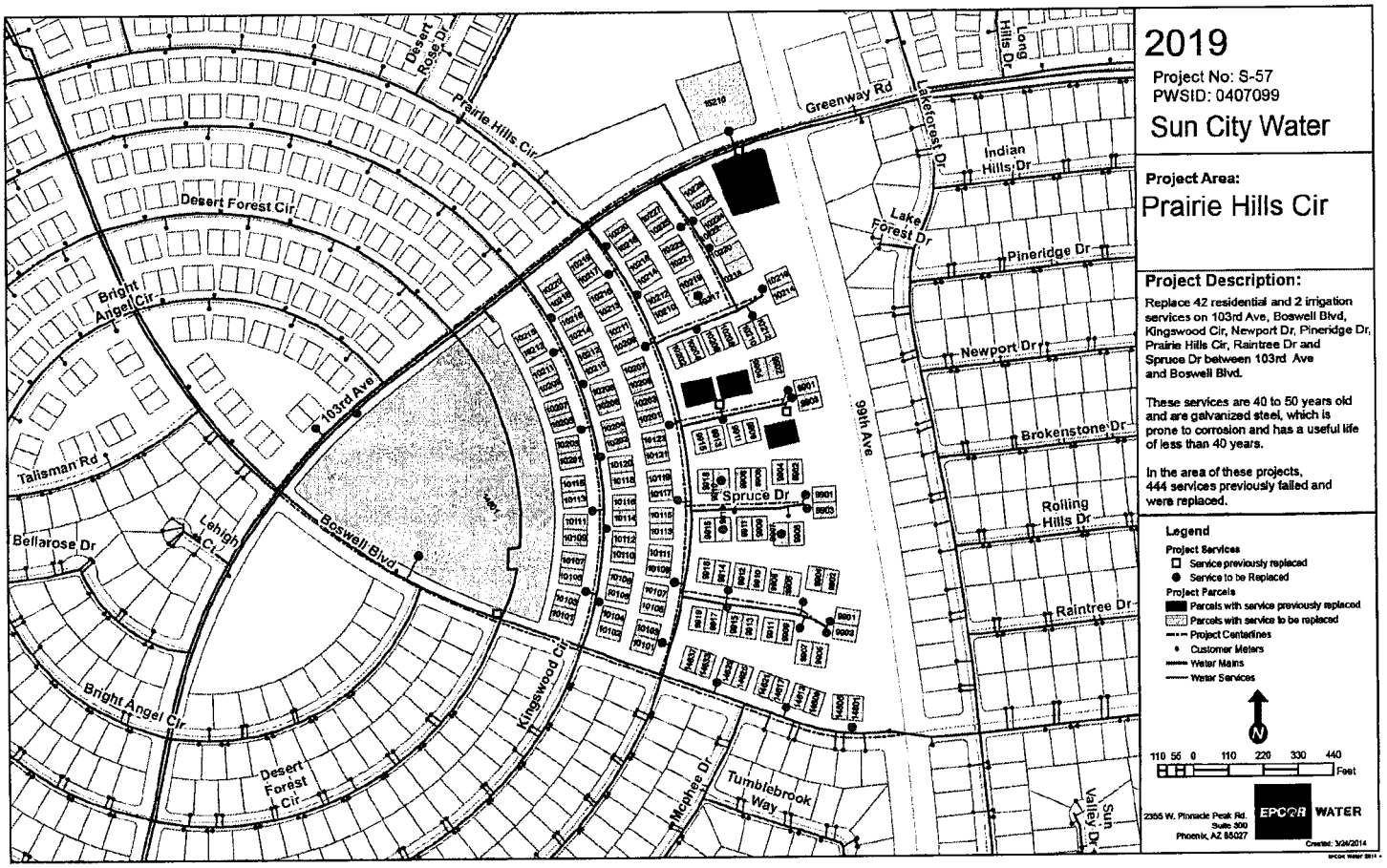

Oak Ridge Dr
Gulf Hills Dr
Gulf Hills Ct
Tumblewood Dr
Shasta Dr
99th Dr
Lakeforest Dr
Castleberry Ct
Pleasant Valley Rd
Twin Oaks Dr
Sandstone Dr
Desert Rose Dr
99th Ave
Boswell Blvd
Prairie Hills Cir
Kingswood Cir
Desert Forest Cir
103rd Ave
Pineridge Dr
2019
Project No: S-56
PWSID: 0407099
Sun City Water
Project Area:
Shasta Dr
Project Description:
Replace 49 residential, 3 commercial and 1 irrigation services on Boswell Blvd, Desert Rose Dr, Pleasant Valley Rd, Sandstone Dr and Shasta Dr between Boswell Blvd and 99th Ave.
These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.
In the area of these projects, 444 services previously failed and were replaced.
Legend
Project Services
Service previously replaced
Service to be Replaced
Project Parcels
Parcels with service previously replaced
Parcels with service to be replaced
Project Centerlines
Customer Meters
Water Mains
Water Services
N
90 45 0 90 180 270 360
Feet
2355 W. Pinnacle Peak Rd.
Suite 300
Phoenix, AZ 85027
EPCOR WATER
Created: 3/24/2014

EPCOR Water Preliminary Cost Estimate			Date Prepared: 2/7/2014
Prepared By: Marc Allen, PE	Water System: Sun City	Project Year and Number: **2019 S-56**	Project Location: Shasta Dr

Project Description:
Replace aging services with copper service lines to reduce water leaks and emergency repairs. (53 total on Boswell Blvd, Desert Rose Dr, Pleasant Valley Rd, Sandstone Dr and Shasta Dr between Boswell Blvd and 99th Ave.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
49	1.5" service	3560	Contractor material and labor to replace services	$ 174,440
4	2" service	3620	Contractor material and labor to replace services	$ 14,480
53	hours	28	Company labor for field oversight and construction project management	$ 1,484
Subtotal				$ 190,404
General Overhead Rate on Labor and Capital (10%)				$ 19,040
Total Estimated Cost				**$ 209,444**



2019

Project No: S-57
PWSID: 0407099

Sun City Water

Project Area:

Prairie Hills Cir

Project Description:

Replace 42 residential and 2 irrigation services on 103rd Ave, Boswell Blvd, Kingswood Cir, Newport Dr, Pineridge Dr, Prairie Hills Cir, Raintree Dr and Spruce Dr between 103rd Ave and Boswell Blvd.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

110 55 0 110 220 330 440 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

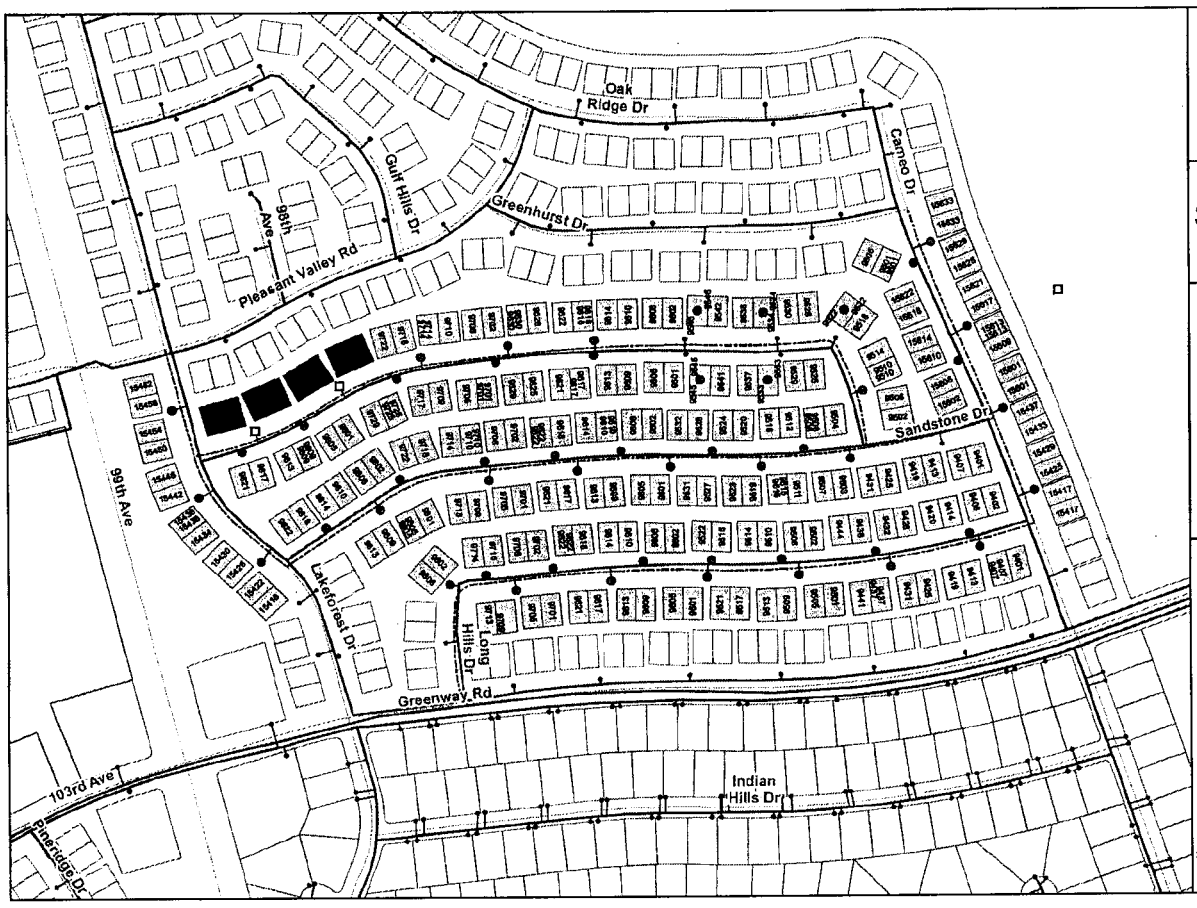
Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2019 S-57**	Prairie Hills Cir

Project Description:
Replace aging services with copper service lines to reduce water leaks and emergency repairs. (44 total on 103rd Ave, Boswell Blvd, Kingswood Cir, Newport Dr, Pineridge Dr, Prairie Hills Cir, Raintree Dr and Spruce Dr between 103rd Ave and Boswell Blvd.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
42	1.5" service	3560	Contractor material and labor to replace services	$ 149,520
2	2" service	3620	Contractor material and labor to replace services	$ 7,240
44	hours	28	Company labor for field oversight and construction project management	$ 1,232
Subtotal				$ 157,992
General Overhead Rate on Labor and Capital (10%)				$ 15,799
Total Estimated Cost				**$ 173,791**



2019

Project No: S-58
PWSID: 0407099

Sun City Water

Project Area:

Sandstone Dr

Project Description:

Replace 50 residential services on Cameo Dr, Lakeforest Dr, Long Hills Dr, Sandstone Dr and Shasta Dr between 99th Ave and Cameo Dr.

These services are 40 to 50 years old and are galvanized steel, which is prone to corrosion and has a useful life of less than 40 years.

In the area of these projects, 444 services previously failed and were replaced.

Legend

Project Services
- Service previously replaced
- Service to be Replaced

Project Parcels
- Parcels with service previously replaced
- Parcels with service to be replaced
- Project Centerlines
- Customer Meters
- Water Mains
- Water Services

N

90 45 0 90 180 270 360 Feet

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

EPCOR WATER

Created: 3/24/2014

EPCOR Water
Preliminary Cost Estimate

Date Prepared: 2/7/2014

Prepared By:	Water System:	Project Year and Number:	Project Location:
Marc Allen, PE	Sun City	**2019 S-58**	Sandstone Dr

Project Description:

Replace aging services with copper service lines to reduce water leaks and emergency repairs. (50 total on Cameo Dr, Lakeforest Dr, Long Hills Dr, Sandstone Dr and Shasta Dr between 99th Ave and Cameo Dr.)

Materials & Labor

Quantity	Unit	Avg $/Unit	Description	Estimated Item Cost
49	1.5" service	3560	Contractor material and labor to replace services	$ 174,440
1	2" service	3620	Contractor material and labor to replace services	$ 3,620
50	hours	28	Company labor for field oversight and construction project management	$ 1,400
Subtotal				$ 179,460
General Overhead Rate on Labor and Capital (10%)				$ 17,946
Total Estimated Cost				**$ 197,406**

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PROFILE

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DOJ vs. S&P - FIRREA as a Tool for Government Enforcement

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Bar Qualification

New York

Education

JD, Harvard Law School, 2005

BA, Princeton University, 1998

Practices

Securities Litigation & Professional Liability

Litigation

Activism

Insurance Coverage Litigation

White Collar Defense & Investigations

Derivatives

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DOJ vs. S&P - FIRREA as a Tool for Government Enforcement

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DOJ vs. S&P - FIRREA as a Tool for Government Enforcement

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Education

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Practices

Securities Litigation & Professional Liability

Litigation

Activism

Insurance Coverage Litigation

White Collar Defense & Investigations

Derivatives

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USA

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THOUGHT LEADERSHIP

DOJ vs. S&P - FIRREA as a Tool for Government Enforcement

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Bar Qualification

New York

Education

JD, Harvard Law School, 2005

BA, Princeton University, 1998

Practices

Securities Litigation & Professional Liability

Litigation

Activism

Insurance Coverage Litigation

White Collar Defense & Investigations

Derivatives

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