

CITY OF COTTONWOOD



Water and Sewer Capacity Fee Study

June 2018





TABLE OF CONTENTS

TABLE OF CONTENTS	i
Section 1 - Introduction	19
1.1 Introduction	19
1.2 Goal and Objectives	19
1.3 Organization of this Report.....	19
1.4. Reliance on Data	19
1.5. Acknowledgements.....	20
Section 2 – Overview of Capacity Fees	21
2.1 Introduction	21
2.2 Calculation Methodologies	22
Section 3 – Water Capacity Fees	24
3.1 Projected Capital Needs.....	24
3.2 Cost Summary	24
3.3 Calculated Water Capacity Fees.....	24
Section 4 – Sewer Capacity Fees	26
4.1 System Valuation	26
4.2 Cost Summary	27
4.3 Calculated Sewer Capacity Fees.....	27

Section 1 - Introduction

1.1 Introduction

Pat Walker Consulting LLC and Wildan Financial Services (“the PWC Team”) was retained by the City of Cottonwood, Arizona (“City”) to conduct a Water and Sewer Capacity Fee Study (“Capacity Fee Study”) for the City’s Water and Sewer utilities (“Utilities”). This report details the results of the Capacity Fee analysis.

1.2 Goal and Objectives

The primary goal of the Capacity Fee Study was to develop cost based capacity fees that reflect the cost of providing capacity to new development and will allow the City to meet its ongoing costs (capital), to provide the infrastructure necessary to allow new development to occur.

1.3 Organization of this Report

This Capacity Fee Study presents an overview of the capacity fee development concepts utilized in the development of the fees and analysis outlined in this report. The analysis is followed by a discussion of the data, assumptions and results associated with each component of the analysis. Finally, appendices with detailed schedules are presented for further investigation into the data, assumptions and calculations which drive the results presented in this Rate Study. The report is organized as follows:

- Section 1 - Introduction
- Section 2 – Overview of Capacity Fees
- Section 3 – Water Capacity Fees
- Section 4 – Sewer Capacity Fees
- Appendix A – Water Capacity Fees
- Appendix B - Sewer Capacity Fees

1.4. Reliance on Data

During the course of this project the City (and/or its representatives) provided the PWC team with a variety of technical information, including cost and revenue data. The PWC team did not independently assess or test for the accuracy of such data – historic or projected. The PWC team has relied on this data in the formulation of its findings and subsequent recommendations, as well as in the preparation of this report. As is often the case, there will be differences between actual and projected data, and these differences may be significant. Therefore, the PWC team does not take responsibility for the accuracy of data or projections provided by or prepared on behalf of the City, nor does the PWC team have responsibility for updating this report for events occurring after the date of this report.

1.5. Acknowledgements

We wish to extend our appreciation to the City and its staff for their cooperation during the progress of this study. In particular, we would like to thank Mr. Rudy Rodriguez, Deputy City Manager, Mr. Roger Biggs Utility Manager and Mr. Morgan Scott Development Services Manager for their guidance and assistance throughout this project.

Section 2 – Overview of Capacity Fees

2.1 Introduction

Capacity fees are one-time charges that reflect the demands and costs created by new development for additional water and wastewater capacity. More specifically a capacity fee is defined as:

Capacity fees reflect the demands and costs created by new development for additional water and wastewater capacity. Generally, capacity fees are required to demonstrate a reasonable connection between the amount of the fee and the cost to serve new development. Arizona law requires that “any proposed water or wastewater rate or rate component; fee or service charge adjustment or increase shall be just and reasonable”.

The infrastructure included in capacity fees are large, system level components and do not include on-site or site-specific improvements. Water system capacity can include components for water resources, production, storage, and distribution. Components of wastewater system capacity can include treatment, interceptors, and collection lines.

The proposed water and wastewater capacity fees have been developed in accordance with Arizona Revised Statutes (ARS) §9-511.01 with the City of Cottonwood providing utility services to customers outside of their municipal boundaries.

As previously mentioned, capacity fees are required to demonstrate a reasonable connection or rational nexus between the amount of the fee and the cost to serve new development (i.e. new development’s proportionate share of infrastructure capacity costs). The additional capacity required for new growth can be the repayment of “buying into” existing capacity or the completion of utility projects to provide additional capacity. This report documents the assumptions, methodologies, and calculations upon which the capacity fees are based. As documented in this report, the capacity fees are just and reasonable and represent new development’s proportionate share of costs for growth related water and wastewater projects from which it will directly benefit.

The infrastructure included in the proposed capacity fees are large, system level components and do not include on-site or site specific improvements.

Projected water flows assume 270 gallons of flow per day per residential equivalent (as identified in the City’s 2017 Water Master Plan) and 158 gallons per day per residential equivalent for sewer flows (identified in the City’s 2017 Wastewater Master Plan).

The capacity fees are calculated on a single-family equivalent (a ¾-inch meter), with fees for larger meters calculated by the product of the capacity cost for a ¾-inch meter by the respective meter capacity ratio to that of a ¾-inch meter as published by the American water works association (AWWA).

2.2 Calculation Methodologies

There are three basic methodologies used to calculate the various components of the City's capacity fees. The methodologies are used to determine the best measure of demand created by new development for each component of the capacity fees. The methodologies can be classified as looking at the past, present and future capacities of infrastructure. The three basic methodologies are described below:

The **buy-in** methodology, is used where infrastructure has been built in advance of new development and excess capacity is available for new development. Under this methodology, new development repays the community for previous capacity investments via the capacity fee. The funds are then available for future expansion of the system.

The **incremental** methodology uses the City's capital improvement plan (CIP) and related master plans to determine new developments share of planned projects. Projects that do not add capacity, such as routine maintenance or replacement of existing facilities, are not included in the fees. Projects that add capacity are further evaluated as to the percentage of the project attributable to existing development versus new development. Only the incremental projects attributable to new development is included in the capacity fees.

The third approach is a **hybrid** methodology. The hybrid approach is used in situations where there is available capacity in the existing system, but there are also future improvements that require additional upgrades or expansion. For example, a wastewater treatment plant has available capacity to serve new development, but the plant needs to be upgraded to meet new treatment regulations.

The water capacity fee was calculated using the incremental methodology, while the capacity fees was calculated using the buy-in method. Figure 1-1 summarizes the capacity fee calculation process.

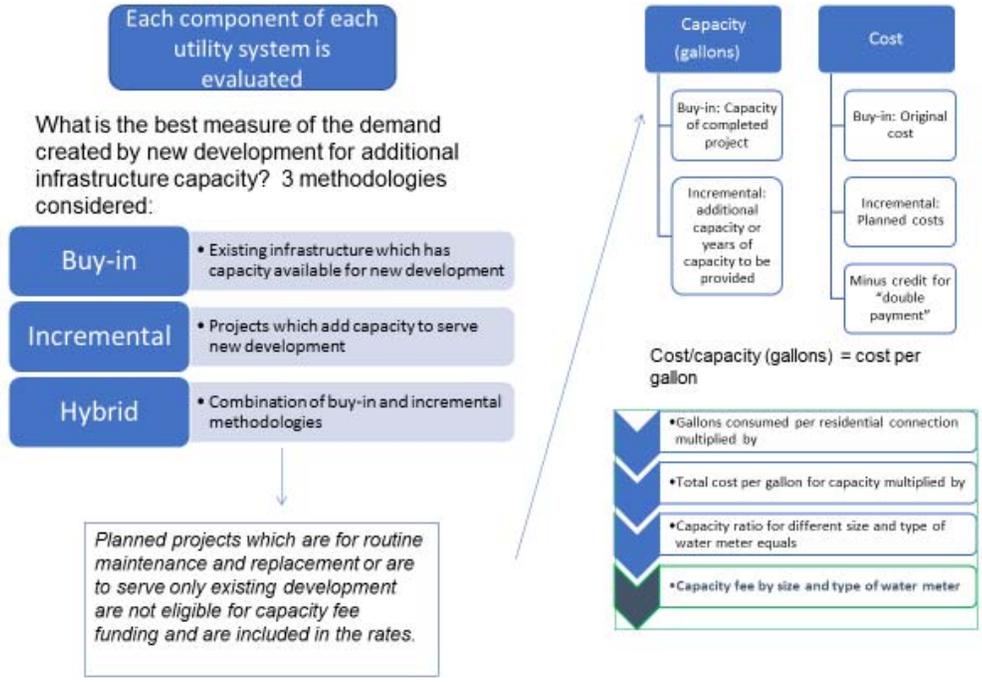


Figure 1-1 Capacity Fee Calculation Process

Section 3 – Water Capacity Fees

3.1 Projected Capital Needs

There are \$2,350,000 in current day dollars of growth related projected costs for water capacity expansion. Using the Engineering News Record (ENR) Construction Cost Index (CCI) inflationary rate of 2.01%, the growth-related capital costs were escalated to \$2,397,263 in inflated dollars. The CIP (capital improvement plan) is comprised of 2 projects; a Highway 60 Wellsite and Pipeline and a Quail Canyon Reservoir. The capital projects are intended to provide the City with 576,000 gallons per day (gpd) of additional capacity.

3.2 Cost Summary

Table 3-1 below summarizes the demand factors (taken from the City’s 2017 Water Master Plan) and the cost per equivalent dwelling unit (EDU) for additional water capacity to identify the additional capital cost per EDU of capacity to serve future development.

Table 3-1 Water Capacity Fee Calculation		
Description	Units	Fee
System Value (a)		\$2,397,263
Incremental Peak Demand Capacity (b)	576,000	
Gallons per Day per Person (c)	70	
Persons per Household (d)	2.7	
Peak Demand (Max Day to Average Day) (e)	<u>1.7</u>	
Gallons of Demand per EDU (c * d * e = f)	270	
Incremental EDUs to be Served (b / f = g)		<u>2,132</u>
Fee per EDU (a / g)		\$1,124

3.3 Calculated Water Capacity Fees

The water capacity fees are based on water meter sizes. A capacity ratio (as published by AWWA) is used to convert the residential equivalent fee for a ¾-inch meter into a proportionate fee for larger meter sizes. The capacity ratios are consistent with the ratios used in the rate design component of this study.

As an example, a ¾-inch meter has a calculated fee of \$1,124. Capacity fees for meter sizes 1-inch and greater are determined based on the meter capacity ratios of maximum safe continuous capacity as published in the AWWA Manual M6. As a result, the capacity of a 1-inch meter is roughly 1.67 times greater than that of a ¾-

meter meter. Thus, the capacity fee for a 1-inch meter is approximately 1.67 times greater than that of the ¾-inch meter. Table 3-2, illustrates the water capacity fees by meter size.

Table 3-2 Water Capacity Fee by Meter Size	
Meter Size	Fee
¾-inch	\$1,124
1-inch	1,878
1 1/2-inch	3,744
2-inch	5,992
3-inch	11,243
4-inch	18,741
6-inch	37,472
8-inch	59,957
10-inch	86,197

The full water capacity fee analysis can be found in Appendix A.

Section 4 – Sewer Capacity Fees

4.1 System Valuation

The current value of the City’s sewer system assets was brought to today’s dollars using the Engineering News Record (ENR) Construction Cost Index (CCI). Using this index attempts to value the City’s assets at what it would cost to purchase or construct those assets today. It is important to recognize, however, that these assets are not new and are not being purchased today, but rather have been depreciated over time. Therefore, the accumulated depreciation is subtracted from the calculated current day value of the assets to determine what is referred to as the Replacement Cost New Less Depreciation (RCNLD) fixed asset value. The RCNLD fixed asset value for the City’s sewer assets was calculated at \$52,767,834. In addition to the fixed assets the City has \$784,579 in cash balance that future growth is being asked to “buy into” which will be used for future growth-related capital costs. There is currently outstanding debt that was used to fund the fixed assets of the sewer system and the debt will be repaid through user rates. To prevent new development from paying for the assets twice (once through the capacity fee and then again through rates to pay debt service), the outstanding debt is subtracted from the system value to determine a new system value for the basis of calculating capacity fees. A summary of the fixed assets by asset classification is shown in Table 4-1. A full list of the City’s fixed assets can be found in Appendix B. Table 4-2 provides a summary of all components of the sewer system valuation.

Table 4-1 Replacement Cost New Less Depreciation Value of Fixed Assets	
Description	Value
Land	\$2,814,206
Buildings	5,907,223
Treatment and Collection	43,760,286
Equipment	<u>286,119</u>
Total	\$52,767,834

Table 4-2 Sewer System Value	
Description	Value
Cash and Cash Equivalents	\$784,579
Fixed Assets	<u>52,767,834</u>
Total Assets	53,552,413
Less: Outstanding Debt	<u>(2,316,308)</u>
Total System Value	\$51,236,105

4.2 Cost Summary

Table 4-3 below summarizes the demand factors (taken from the City's 2017 Wastewater Master Plan) and the cost per equivalent dwelling unit (EDU) for additional sewer capacity to identify the additional capital cost per EDU of capacity to serve future development.

Table 4-3 Sewer Capacity Fee Calculation		
Description	Units	Fee
System Value (a)		\$51,236,105
System Peak Demand Capacity (b)	1,800,000	
Gallons per Day per Person (c)	53	
Persons per Household (d)	2.70	
Peak Demand (Max Day to Average Day) (e)	<u>1.31</u>	
Gallons of Demand per EDU (c * d * e = f)	158	
Incremental EDUs to be Served (b / f = g)		<u>11,381</u>
Fee per EDU (a / g)		\$4,502

4.3 Calculated Sewer Capacity Fees

The sewer capacity fees are based on meter sizes. A capacity ratio (as published by AWWA) is used to convert the residential equivalent fee for a ¾-inch meter into a proportionate fee for larger meter sizes. The capacity ratios are consistent with the ratios used in the rate design component of this study.

As an example, a ¾-inch meter has a calculated fee of \$4,502. Capacity fees for meter sizes 1-inch and greater are determined based on the meter capacity ratios of maximum safe continuous capacity as published in the AWWA Manual M6. As a result, the capacity of a 1-inch meter is roughly 1.67 times greater than that of a ¾-inch meter. Thus, the capacity fee for a 1-inch meter is approximately 1.67 times greater than that of the ¾-inch meter. Table 3-2, illustrates the water capacity fees by meter size.

**Table 4-4
Sewer Capacity Fee by Meter Size**

Meter Size	Fee
¾-inch	\$4,502
1-inch	7,518
1 1/2-inch	14,992
2-inch	23,995
3-inch	45,020
4-inch	75,048
6-inch	150,050
8-inch	240,089
10-inch	345,165

The full sewer capacity fee analysis can be found in Appendix B.

Cottonwood
 Water Capacity Fee Model
 Capacity Fee Calculation - Incremental

Description	Value
Incremental - Capital	\$2,397,263
Incremental - Interest Costs	0

Total Assets	\$2,397,263
Additional Peak Day Demand Capacity	576,000
Peak Demand (Max Day to Avg Day) per EDU	270

Number of EDU's	2,132
Proposed Capacity Fee per EDU	1,124
Current Capacity Fee per EDU	0

Change	\$1,124
Average Water Flows per person (gpd)	70
Average Use per EDU (2.7 pph)	159
Peak Demand (Max Day to Avg Day)	1.70
Water Flows per EDU	<u>270</u>

Cottonwood
 Water Capacity Fee Model
 Capacity Fee Calculation - Summary

Approach	<u>Incremental</u>
Calculated Fee	\$1,124
Current Fee	0

<u>Change</u>	<u>\$1,124</u>

Meter		
<u>Meter Size</u>	<u>Capacity Ratio</u>	<u>Fee</u>
3/4"	1.00	\$1,124
1"	1.67	1,878
1 1/2"	3.33	3,744
2"	5.33	5,992
3"	10.00	11,243
4"	16.67	18,741
6"	33.33	37,472
8"	53.33	59,957
10"	76.67	86,197

Cottonwood
Sewer Capacity Fee Model
Fixed Assets by Valuation Method

Asset No.	Fixed Asset	Valuation Date	Original Cost	Accumulated Depreciation	Original Cost Less Depreciation	CCI Inflation Factor	Replacement Cost New (RCN)
Land							
00025650	LAND PURCHASE - FY 1994-95	1995	\$105,148	\$0	\$105,148	1.92	\$105,148
00025651	LAND - FY 1995-96	1995	127,977	0	127,977	1.92	127,977
00025652	WWTP LAND ACQ.	2000	1,452,442	0	1,452,442	1.69	1,452,442
00025653	LAND ACQUISITION 98-99	1999	570,686	0	570,686	1.74	570,686
00025654	SILER PROPERTY ACQUISITION	2003	530,865	0	530,865	1.57	530,865
00125742	RAILROAD WASH IMPROVEMENTS	2004	27,089	0	27,089	1.48	27,089
Buildings							
00025152	DRYING BED EQUIPMENT	1993	60,358	60,358	0	2.02	122,001
00025153	DRYING BED EQUIPMENT	1994	60,272	60,272	0	1.95	117,368
00025171	CENTRAFUSE FY 1997-98	1998	173,483	173,483	0	1.78	308,604
00025500	BUILDING - FY 1990-91	1990	273,571	93,228	180,343	2.23	608,825
00025501	BUILDINGS - FY 1990-91	1990	2,200,354	1,125,190	1,075,164	2.23	4,896,829
00025502	BUILDINGS - FY 1990-91	1990	79,042	79,042	0	2.23	175,906
00025503	BUILDINGS FY 1990-91	1990	8,463	8,463	0	2.23	18,835
00025504	BUILDINGS - FY 1993-94	1994	6,425	5,835	590	1.95	12,512
00025505	BUILDINGS - FY 1994-95	1995	503	431	72	1.92	968
00025506	BUILDINGS - FY 1995-96	1996	24,971	20,264	4,706	1.87	46,791
00025507	BUILDINGS - FY 1997-98	1998	217,082	156,324	60,759	1.78	386,162
00025508	BUILDINGS 98-99	1999	289,056	196,591	92,466	1.74	502,399
00025721	BUILDINGS 98-99	1999	12,783	8,694	4,089	1.74	22,218
00025727	FIRE STATION PURCHASE	2002	315,000	176,435	138,565	1.61	507,379
00025736	AIR CONDITIONING-TRANE	2002	3,951	3,951	0	1.61	6,364
00025737	RAMADA RELOCATION	2003	44,192	22,985	21,207	1.57	69,513
00027785	FOXWORTH BUILDING-Improvements	2010	120,853	29,018	91,835	1.20	144,641
00127785	PURCHASE FOXWORTH BUILDING	2009	195,057	59,215	135,842	1.23	239,688
Collection System							
00025150	FY 1990-91 ADDITIONS	1990	136,600	136,600	0	2.23	304,000
00025151	FY 1990-91 ACQUISITION	1990	1,302,566	1,302,566	0	2.23	2,898,827
00025188	SLUDGE HANDLING FACILITY	1999	239,530	239,530	0	1.74	416,320
00025700	COLLECTION SYS - FY 1990-91	1990	7,585,227	2,584,904	5,000,323	2.23	16,880,721
00025701	COLLECTION SYS - FY 1990-91	1990	714,022	365,128	348,894	2.23	1,589,037
00025702	COLLECTION SYS - FY 1990-91	1990	590,143	590,143	0	2.23	1,313,347
00025703	COLLECTION SYS - FY 1991-92	1992	10,342	3,442	6,900	2.11	21,848
00025704	COLLECTION SYS - FY 1993-93	1993	94,456	88,239	6,218	2.02	190,924
00025705	COLLECTION SYS - FY 1993-94	1994	101,780	30,577	71,203	1.95	198,195
00025706	COLLECTION SYS - FY 1993-94	1994	76,047	68,098	7,949	1.95	148,086
00025707	LIFT STATIONS - FY 1994-95	1995	33,002	14,203	18,799	1.92	63,524
00025708	DRYING BEDS	1995	15,383	13,174	2,209	1.92	29,610
00025709	COLLECTION SYS - FY 1994-95	1995	270,323	77,609	192,714	1.92	520,335
00025710	LIFT STATIONS - FY 1995-96	1996	18,010	7,391	10,619	1.87	33,748
00025711	LIFT STATION - FY 1995-96	1996	47,052	47,052	0	1.87	88,168
00025712	COLLECTION SYS - FY 1995-96	1996	97,133	26,592	70,541	1.87	182,012
00025713	COLLECTION SYSTEM - 1996-97	1997	1,766,086	455,802	1,310,284	1.81	3,192,883
00025714	SOLIDS HANDLING	1997	17,696	17,696	0	1.81	31,993
00025715	MISC CONST FY 1997-98	1998	3,106	745	2,360	1.78	5,524
00025716	COLLECTION CONSULTS FY 97-98	1998	2,884	692	2,192	1.78	5,130
00025720	WWTP EXPAN 99-00	2000	3,031,187	970,151	2,061,037	1.69	5,131,209
00025722	WWTP SLUDGE SYSTEM 00-01	2001	24,812	24,812	0	1.66	41,201
00025723	WWTP EXPANSION 00-01	2001	1,956,472	587,052	1,369,420	1.66	3,248,737
00025724	WWTP EFFLUENT REUSE 00-01	2001	73,275	73,275	0	1.66	121,674
00025728	WWTP EFFLUENT REUSE 01-02	2002	305,569	285,254	20,315	1.61	492,188
00025729	WWTP EXPANSION 01-02	2001	43,322	12,788	30,533	1.66	71,936
00025738	LINE EXTENSION-WILLARD ST 02-3	2002	24,974	24,974	0	1.61	40,226
00025739	WWTP EXPANSION 02-03	2002	9,500	2,651	6,849	1.61	15,302
00025740	WWTP EFFLUENT REUSE 02-03	2002	6,053	5,645	408	1.61	9,750
00025743	EFFLUENT SYSTEM CONSTRUCTION	2003	13,973	7,268	6,705	1.57	21,979
00025745	Line Extension - Willard Street 03-04	2004	5,822	4,659	1,163	1.48	8,617
00025747	Effluent System 03-04	2004	1,855	1,484	371	1.48	2,746
00027748	460 GALLON BLADDER TANK	2004	8,071	8,071	0	1.48	11,946
00027749	LINE EXT- WOODFORD ORTHODONTICS	2005	26,800	19,707	7,093	1.41	37,903
00027766	474' LINE EXT SKYVIEW CIRCLE & 6TH	2005	25,260	17,212	8,048	1.41	35,725
00027768	LIFT STATIONS	2007	24,047	14,433	9,614	1.32	31,786
00027775	REPLACEMENT PUMP FOR L4	2008	31,986	17,781	14,204	1.27	40,534
00027776	VOLT VARIABLE FREQUENCY DRIVE LS4 (3)	2008	33,013	18,077	14,935	1.27	41,836
00027780	LINE EXTENSIONS-UVX ROAD	2008	51,979	27,732	24,247	1.27	65,871
00027781	BACKUP WASTE WATER PUMP LIFT #5	2008	15,691	15,377	314	1.27	19,884
00027782	BACKUP WASTE WATER PUMP LIFT #1	2009	5,216	5,216	0	1.23	6,409
00027787	Peerless Pump	2010	5,228	5,228	0	1.20	6,257
00027788	Sludge Pump	2010	14,047	14,047	0	1.20	16,812
00027789	SUBMERSIBLE PUMP	2010	16,232	16,232	0	1.20	19,427
00027790	BACK UP PUMP	2009	5,261	5,261	0	1.23	6,465
00027791	Sludge Pump - Moyno 2000CC	2010	14,177	14,177	0	1.20	16,967
00027792	Backup Pump - Submersible Vortex Pump	2011	5,237	5,237	0	1.16	6,081
00090000	INFRASTRUCTURE TOTAL FR/CARDS	1968	8,590	8,590	0	9.12	78,320
00127750	LINE EXT-BLACK HILLS	2005	3,682	2,701	981	1.41	5,208
00127751	ASPDES REQUIRED PERMIT	2005	41,218	41,218	0	1.41	58,295
00127769	SLUDGE PUMP	2007	7,926	7,926	0	1.32	10,477
00127793	HEADWORKS BYPASS SEWER LINE	2010	36,938	15,094	21,844	1.20	44,209
2012-0251	12th ST REHAB 89A TO FIR - RECLAIM WW LINE	2016	65,030	0	65,030	1.00	65,030
2013-0251	12th ST REHAB 89A TO FIR - RECLAIM WW LINE	2016	254,332	0	254,332	1.00	254,332
2014-0251	12th ST REHAB 89A TO FIR - RECLAIM WW LINE	2016	4,999	0	4,999	1.00	4,999
2014-0030	New Backup Pump LS1	2014	8,739	740	7,998	1.07	9,385

Cottonwood
Sewer Capacity Fee Model
Fixed Assets by Valuation Method

Asset No.	Fixed Asset	Valuation Date	Original Cost	Accumulated Depreciation	Original Cost Less Depreciation	CCI Inflation Factor	Replacement Cost New (RCN)
2014-0031	Pump LS 2 & 3	2014	15,673	1,328	14,345	1.07	16,831
2014-0044	Submersible Wastewater Pump	2014	19,156	10,137	9,020	1.07	20,572
2014-0046	WW Plant Headworks Odor Control System	2014	75,700	6,923	68,777	1.07	81,296
2014-0047	Reclaimed Water Line to Yavapai College	2014	221,430	17,972	203,458	1.07	237,800
2014-0048	(3) Variable Frequency Drives for Lift Station 4	2014	14,478	1,160	13,318	1.07	15,549
2015-0001	Pump at LS 4	2014	36,987	6,942	30,046	1.07	39,722
2015-0027a	Sandblast and paint Reclamation Tank	2015	37,705	3,781	33,924	1.05	39,572
2015-0029	KSB Pump 36 HP Model KRT F 100-316/294 XG 279 mm with 50' power	2014	15,984	2,426	13,558	1.07	17,166
2015-0030	KSB Pump 36 HP Model KRT F 100-316/294 XG 279 mm with 50' power	2014	15,984	2,426	13,558	1.07	17,166
2015-0031	Moyno Sludge Pump (2)	2015	15,728	1,866	13,862	1.05	16,507
2015-0032	KSB Pump for LS	2015	15,984	1,603	14,381	1.05	16,776
2015-0046	Odor Control at WW Headworks	2015	8,500	341	8,159	1.05	8,921
2016-0014	Emergency Air Release Valve- 3" FLG D023-SB 3-250	2015	9,015	516	8,499	1.05	9,462
2016-0023	MINGUS RECLAIMED WATER LINE	2016	158,975	383	158,592	1.00	158,975
2016-0024	WILLARD STREET SEWER LINE UPGRADES	2016	1,153	0	1,153	1.00	1,153
2016-0025	MINGUS RECLAIMED WATER LINE	2016	52,488	0	52,488	1.00	52,488
2017-0011	POLYMER BLENDING UNIT	2017	10,131	0	10,131	1.00	10,131
2017-0015	PUMP, 7.5 HP STAINLES STEEL MOTOR	2017	6,573	0	6,573	1.00	6,573
2017-0016	PUMP, KSB SUBMERSIBLE PUMP	2017	16,061	0	16,061	1.00	16,061
2017-0017	PUMP, FAIRBANKS SUBMERSIBLE	2017	38,531	0	38,531	1.00	38,531
2017-0020	WEDECO DURON UV DISINFECTION SYSTEM	2017	349,364	0	349,364	1.00	349,364
2017-0020A	WEDECO DURON UV DISINFECTION SYSTEM -2016	2017	228,014	0	228,014	1.00	228,014
2017-0021	KIDS PARK SEWER LINES	2017	37,845	0	37,845	1.00	37,845
00027773	REPLACEMENT FOR L4 PUMP	2007	26,776	17,478	9,298	1.32	35,393
	WWTP Expansion	2018	12,500,000	0	12,500,000	1.00	12,500,000
Equipment							
00000068	ACCOUNTING SOFTWARE	1988	0	0	0	2.33	0
00025008	A/R SOFEWARE	1990	1,620	1,620	0	2.23	1,620
00025010	REFRIGERATOR 6.1 c.f.	1990	1,700	1,700	0	2.23	1,700
00025017	FUME HOOD W/BLOWER	1990	3,600	3,600	0	2.23	3,600
00025021	METTLER # AE200 ANALYTICAL	1990	3,195	3,195	0	2.23	3,195
00025024	YSI #54ARC OXYGEN METER	1990	1,500	1,500	0	2.23	1,500
00025026	BOD INCUBATOR 6.5 c.f.	1990	2,814	2,814	0	2.23	2,814
00025028	AMPEROMETRIC TITRATOR	1990	1,642	1,642	0	2.23	1,642
00025029	COD REACTOR	1990	2,500	2,500	0	2.23	2,500
00025032	NAPCO AUTOCLAVE/DRYER	1990	2,575	2,575	0	2.23	2,575
00025036	SPECTRONIC #21DV SPECTRO/METER	1990	1,500	1,500	0	2.23	1,500
00025037	ORION #SA720 DIGITAL METER	1990	1,100	1,100	0	2.23	1,100
00025044	OHAUS #6010PC MOISTURE	1990	1,375	1,375	0	2.23	1,375
00025045	THERMOLYNE MUFFLE FURNACE	1990	1,633	1,633	0	2.23	1,633
00025046	SIX PADDLE STIRRER W/BASE	1990	1,100	1,100	0	2.23	1,100
00025055	UTILITY STAR BILLING SOFTWARE	2004	29,908	29,908	0	1.48	29,908
00025056	2002 FORD EXPLORER	2004	6,293	6,293	0	1.48	6,293
00025068	ACCOUNTING SOFTWARE	1990	3,148	3,148	0	2.23	3,148
00025071	ACCOUNTING SOFTWARE	1990	1,395	1,395	0	2.23	1,395
00025074	91 CHEVY JUNIOR PICK-UP	1991	11,211	11,211	0	2.18	11,211
00025077	SHORING EQUIPMENT	1992	1,897	1,897	0	2.11	1,897
00025080	MICROTEL 8 CHANNEL ALARM SYS	1992	2,928	2,928	0	2.11	2,928
00025098	MECH DUAL CYLINDER SCALE	1994	2,345	2,345	0	1.95	2,345
00025104	AUTO CLZ SYSTEM	1994	4,882	4,882	0	1.95	4,882
00025142	SPECTROPHOMETER	1996	1,570	1,570	0	1.87	1,570
00025143	BODTRAK APPARATUS	1996	1,570	1,570	0	1.87	1,570
00025144	AQUA JET AERATOR	1995	1,000	1,000	0	1.92	1,000
00025148	SAMPLER	1996	3,995	3,995	0	1.87	3,995
00025149	LEVEL CONTROLER	1996	1,778	1,778	0	1.87	1,778
00025158	4210US FLOW METER	1996	2,904	2,904	0	1.87	2,904
00025159	IRRIGATION STATION CONTROL	1996	3,611	3,611	0	1.87	3,611
00025162	UTILITY PICKUP BED	1996	2,961	2,961	0	1.87	2,961
00025163	CRAIN FOR PICK-UP BED	1996	3,011	3,011	0	1.87	3,011
00025164	W202-2 CLORINATION SYSTEM	1997	3,168	3,168	0	1.81	3,168
00025172	MECHANICAL CYLINDER SCALE	1997	1,251	1,251	0	1.81	1,251
00025173	OPSWIN SOFTWARE	1997	2,745	2,745	0	1.81	2,745
00025175	SUBMERS PUMP - 2 HP	1997	2,698	2,698	0	1.81	2,698
00025177	CONFIND AIR SCOTT AIR PACK 2.2	1997	2,044	2,044	0	1.81	2,044
00025178	CYLINDER REPAIR KIT	1997	1,620	1,620	0	1.81	1,620
00025180	10 HP LIFT PUMP SATATION #1	1998	4,116	4,116	0	1.78	4,116
00025182	HYDRO TRANSDUCER	1999	1,907	1,907	0	1.74	1,907
00025183	LIFT PUMPS	1998	14,957	14,757	199	1.78	14,957
00025184	PORTABLE VACUUM SYSTEM	1999	10,566	10,566	0	1.74	10,566
00025185	HYDRO TRANSDUCER	1999	1,911	1,911	0	1.74	1,911
00025186	LIFT PUMPS	1999	21,304	21,304	0	1.74	21,304
00025187	EZ GO CART	1999	1,438	1,438	0	1.74	1,438
00025717	TRANSDUCER	1999	1,745	1,745	0	1.74	1,745
00025718	MICROSCOPE	2000	2,240	2,240	0	1.69	2,240
00025719	WW OP TRAINING CD-ROM	1999	1,505	1,505	0	1.74	1,505
00025726	GEN EYE COLOR CAMERA	2000	9,074	9,074	0	1.69	9,074
00025731	GAS DETECTOR	2002	2,357	2,357	0	1.61	2,357
00025732	AXIAL BLOWER	2002	671	671	0	1.61	671

Cottonwood
 Sewer Capacity Fee Model
 Summary of System Assets by Valuation Method

	Buy-In
Item	Replacement Cost New Less Depreciation (RCNLD)
ASSETS	
Current Assets	
Cash and Cash Equivalents	\$784,579

Total Current Assets	\$784,579
Fixed Assets	\$52,767,834

TOTAL ASSETS	53,552,413
Add: Borrowing Costs (Growth)	0
Less: Principle (Non-Growth)	2,316,308

Net System Value	\$51,236,105

Cottonwood
 Sewer Capacity Fee Model
 Capacity Fee Calculation - Buy-In

Description	Replacement Cost New Less Depreciation (RCNLD)
Buy-In - Assets	
Cash and Cash Equivalents	\$784,579
Fixed Assets	
Land	2,814,206
Buildings	5,907,223
Collection System	43,760,286
Equipment	286,119

Total Fixed Assets	52,767,834
Add: Borrowing Costs (Growth)	0
Less: Debt Service (Non-Growth)	2,316,308

Total Assets	51,236,105
Number of EDU's	11,381

Proposed Capacity Fee per EDU	\$4,502
Current Capacity Fee per EDU	\$0

<u>Change</u>	<u>\$4,502</u>

Peak Day Demand Capacity		1,800,000
Average Wastewater Flows per person (gpd)	53	
Average Use per EDU (2.27 pph)		120
Peak Demand (Max Day to Avg Day)		<u>1.31</u>
Wastewater Flows per EDU		<u>158</u>
Total EDUs		<u>11,381</u>

Cottonwood
 Sewer Capacity Fee Model
 Capacity Fee Calculation - Summary

Approach	<u>Buy-In</u>
Calculated Fee	\$4,502
Current Fee	0

Change	<u>\$4,502</u>

Meter		
<u>Meter Size</u>	<u>Capacity Ratio</u>	
3/4"	1.00	\$4,502
1"	1.67	7,518
1 1/2"	3.33	14,992
2"	5.33	23,995
3"	10.00	45,020
4"	16.67	75,048
6"	33.33	150,050
8"	53.33	240,089
10"	76.67	345,165