

Water and the Capital Improvement Plan

The water utility benefits significantly in the 2017-2022 Utilities CIP. Many existing and new projects will increase water capacity to meet future resident and economic growth projections, improve system reliability to ensure continuous operability, and enhance efforts to protect the public and the environment. Substantial capital water projects include:

- The construction of a new and larger reservoir tank to improve the provision of water service to customers.
- The installation of pressure-reducing valve (PRV) stations to increase water pressure and available fire flows.
- An upgrade of the North Well Treatment Facility including improvements to the backwash recycling system, treatment filters, and supervisory control and data acquisition system (SCADA).
- The planning and acquisition of a new source of supply.
- The installation of needed equipment to fully automate meter reading.
- The replacement of deteriorated water mains that have reached or surpassed functional life.
- The replacement of water mains with larger pipes to address system capacity issues.
- A comprehensive update to the Water System Plan to identify system weaknesses and the improvements required to meet future CoS needs and potential service area expansions.

The cash flow model on the following page depicts the beginning fund balance, revenues, expenditures, and ending fund balance for the water utility. In total, CoS will spend nearly \$25 million on capital water projects and collect nearly \$25 million in revenues over the six-year period, including the issuance of \$15 million in new debt and the collection of \$10 million in utility rate revenue.

The debt payment schedule for the water utility, on the subsequent page following the cash flow model, reveals the annual payment CoS will make to service debt if the plan is fully accomplished and no changes are made. To service the debt, CoS will use water rate revenue.

The last section of 2017-2022 Utilities CIP shares the purpose, cost, status, and location of each capital water project. Finding a water project in this section requires locating the project identifier in the upper left-hand corner of a project form. If the project identifier is labeled with a “WAT”, then it is strictly a water project. Some projects however may involve more than one utility. In this case, a project labeled as “PUW” or “UTL” may contain water-related capital activities.



Beginning Fund Balance		2017	2018		2019	2020	2021	2022	
		\$ 1,791,230	\$ 715,827		\$ 1,111,072	\$ 1,228,913	\$ 5,009,202	\$ 4,915,860	

Revenues

Revenue Type	2017	2018	Total 2017-2018	2019	2020	2021	2022	Total 2017-2022
WATER UTILITY FEES	\$ 1,047,133	\$ 1,424,262	\$ 2,471,395	\$ 1,573,334	\$ 1,772,956	\$ 1,931,301	\$ 2,020,403	\$ 9,769,390
OTHER MISCELLANEOUS REVENUES	\$ 37,424	\$ 12,311	\$ 49,735	\$ 12,261	\$ 14,163	\$ 14,299	\$ 15,954	\$ 106,412
REVENUE BOND DEBT PROCEEDS	\$ 2,115,598	\$ 5,018,168	\$ 7,133,766	\$ -	\$ 7,664,153	\$ -	\$ -	\$ 14,797,919
TOTAL REVENUES =	\$ 3,200,155	\$ 6,454,741	\$ 9,654,897	\$ 1,585,595	\$ 9,451,272	\$ 1,945,600	\$ 2,036,357	\$ 24,673,721

Expenditures

Expenditure Type	CIP Project ID	Inception-To-Date Through 2016	2017	2018	Total 2017-2018	2019	2020	2021	2022	Total 2017-2022
DEBT EXPENDITURES										
2008 Revenue Bond	PUW08001CIP	\$ 1,846,229	\$ 205,835	\$ 205,215	\$ 411,050	\$ 205,775	\$ 206,095	\$ 204,175	\$ 206,095	\$ 1,233,190
2011 LTGO Bond	PUW11001CIP	\$ 537,003	\$ 100,340	\$ 101,300	\$ 201,640	\$ 100,100	\$ 100,820	\$ 101,380	\$ 99,780	\$ 603,720
2017 Bond Anticipation Note and 2018 Revenue Bond	PUW18001CIP	\$ -	\$ 15,598	\$ 161,455	\$ 177,053	\$ 440,531	\$ 440,531	\$ 440,531	\$ 440,531	\$ 1,939,178
2020 Revenue Bond	PUW20001CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 589,191	\$ 589,191	\$ 589,191	\$ 1,767,572
2003 Drinking Water State Revolving Fund Loan (Canyon Springs Corrosion Control Project)	WAT03001CIP	\$ 374,199	\$ 38,213	\$ 37,363	\$ 75,576	\$ 36,514	\$ 35,665	\$ 34,816	\$ -	\$ 182,572
Debt Expenditures Subtotal		\$ 2,757,431	\$ 359,986	\$ 505,333	\$ 865,319	\$ 782,921	\$ 1,372,302	\$ 1,370,093	\$ 1,335,597	\$ 5,726,231
EXISTING PROJECT EXPENDITURES										
Infrastructure Improvement Program	PUW16001CIP	\$ 350,000	\$ 12,297	\$ 1,375,419	\$ 1,387,716	\$ -	\$ 3,460,522	\$ -	\$ -	\$ 4,848,238
Railroad Place, Newton Street, and Delta Street Project	PUW16002CIP	\$ 38,255	\$ 10,750	\$ 808,742	\$ 819,492	\$ -	\$ -	\$ -	\$ -	\$ 819,492
2016/2017 Northern Street Project	PUW16003CIP	\$ 29,525	\$ 220,579	\$ -	\$ 220,579	\$ -	\$ -	\$ -	\$ -	\$ 220,579
Water Reservoir Improvement Project	WAT16001CIP	\$ 22,866	\$ 100,000	\$ 1,019,377	\$ 1,119,377	\$ -	\$ -	\$ -	\$ -	\$ 1,119,377
Pressure Zone Modifications Project	WAT16002CIP	\$ 83,988	\$ 6,000	\$ 1,930,589	\$ 1,936,589	\$ -	\$ -	\$ -	\$ -	\$ 1,936,589
Water Treatment Facility Improvements	WAT16003CIP	\$ 327,600	\$ 3,250,917	\$ -	\$ 3,250,917	\$ -	\$ -	\$ -	\$ -	\$ 3,250,917
Generators	WAT16004CIP	\$ 939,906	\$ 72,121	\$ -	\$ 72,121	\$ -	\$ -	\$ -	\$ -	\$ 72,121
Existing Project Expenditures Subtotal		\$ 1,792,140	\$ 3,672,664	\$ 5,134,127	\$ 8,806,791	\$ -	\$ 3,460,522	\$ -	\$ -	\$ 12,267,313
NEW PROJECT EXPENDITURES										
Street Preservation Program	PUW20002CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 668,849	\$ 3,561,438	\$ 4,230,287
Card Readers at Remote Facilities	UTL20001CIP	\$ -	\$ -	\$ -	\$ -	\$ 84,921	\$ -	\$ -	\$ -	\$ 84,921
SR 202 Bridge Utility Replacement Project	UTL22001CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 209,321	\$ 209,321
Source of Supply Improvements	WAT17001CIP	\$ -	\$ 42,000	\$ 201,302	\$ 243,302	\$ 382,785	\$ 200,000	\$ -	\$ -	\$ 826,087
Service Meter Replacement Program	WAT17002CIP	\$ -	\$ 200,908	\$ -	\$ 200,908	\$ -	\$ -	\$ -	\$ -	\$ 200,908
SCADA System Improvements	WAT18001CIP	\$ -	\$ -	\$ -	\$ -	\$ 109,367	\$ -	\$ -	\$ -	\$ 109,367
Water System Plan Update	WAT18002CIP	\$ -	\$ -	\$ 218,734	\$ 218,734	\$ 53,076	\$ -	\$ -	\$ -	\$ 271,810
PRV from 1180 Zone to 1040 Zone	WAT19001CIP	\$ -	\$ -	\$ -	\$ -	\$ 54,684	\$ 638,160	\$ -	\$ -	\$ 692,844
Williams Addition Water System Improvements	WAT22001CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 44,685	\$ 44,685
SE 76th Street in Ernie's Grove	WAT22002CIP	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 61,660	\$ 61,660
New Project Expenditures Subtotal		\$ -	\$ 242,908	\$ 420,036	\$ 662,944	\$ 684,833	\$ 838,160	\$ 668,849	\$ 3,877,104	\$ 6,731,890
TOTAL EXPENDITURES =		\$ 4,549,571	\$ 4,275,558	\$ 6,059,496	\$ 10,335,054	\$ 1,467,754	\$ 5,670,984	\$ 2,038,942	\$ 5,212,701	\$ 24,725,435

Ending Fund Balance		2017	2018		2019	2020	2021	2022	
		\$ 715,827	\$ 1,111,072		\$ 1,228,913	\$ 5,009,202	\$ 4,915,860	\$ 1,739,516	

2017-2022 UTILITIES CAPITAL IMPROVEMENT PLAN

WATER DEBT PAYMENT SCHEDULE			
30-Year Perspective			
Year	Principal	Interest	Annual Payment
2017	\$ 220,305	\$ 124,083	\$ 344,388
2018	\$ 227,320	\$ 278,013	\$ 505,333
2019	\$ 357,470	\$ 425,451	\$ 782,921
2020	\$ 616,288	\$ 756,014	\$ 1,372,302
2021	\$ 640,027	\$ 730,066	\$ 1,370,093
2022	\$ 632,725	\$ 702,872	\$ 1,335,597
2023	\$ 659,915	\$ 674,972	\$ 1,334,887
2024	\$ 689,687	\$ 645,825	\$ 1,335,512
2025	\$ 720,325	\$ 614,777	\$ 1,335,102
2026	\$ 753,678	\$ 582,474	\$ 1,336,152
2027	\$ 787,916	\$ 548,176	\$ 1,336,092
2028	\$ 617,143	\$ 512,229	\$ 1,129,372
2029	\$ 647,205	\$ 484,066	\$ 1,131,272
2030	\$ 674,546	\$ 455,039	\$ 1,129,585
2031	\$ 604,918	\$ 424,804	\$ 1,029,722
2032	\$ 632,139	\$ 397,583	\$ 1,029,722
2033	\$ 660,586	\$ 369,136	\$ 1,029,722
2034	\$ 690,312	\$ 339,410	\$ 1,029,722
2035	\$ 721,376	\$ 308,346	\$ 1,029,722
2036	\$ 753,838	\$ 275,884	\$ 1,029,722
2037	\$ 787,761	\$ 241,961	\$ 1,029,722
2038	\$ 823,210	\$ 206,512	\$ 1,029,722
2039	\$ 860,254	\$ 169,468	\$ 1,029,722
2040	\$ 309,775	\$ 130,756	\$ 440,531
2041	\$ 323,715	\$ 116,816	\$ 440,531
2042	\$ 338,282	\$ 102,249	\$ 440,531
2043	\$ 353,505	\$ 87,027	\$ 440,531
2044	\$ 369,413	\$ 71,119	\$ 440,531
2045	\$ 386,036	\$ 54,495	\$ 440,531
2046	\$ 403,408	\$ 37,124	\$ 440,531
2047	\$ 421,561	\$ 18,970	\$ 440,531
2048	\$ 117,622	\$ -	\$ 117,622
TOTAL	\$ 17,802,259	\$ 10,885,717	\$ 28,687,976