# 2019-2028 Water Utility Capital Program

						Five Year						Ten Year
	2019	2020	2021	2022	2023	Total	2024	2025	2026	2027	2028	Total
Revenue												
Beginning Balance	\$ 5,849,060 \$	5,371,576 \$	3,023,569 \$	4,774,780 \$	5,120,848 \$	5,849,060 \$	5,097,158 \$	8,302,277 \$	12,690,832 \$	10,091,357 \$	9,270,641 \$	5,849,060
A Operating Revenues	2,201,407	4,369,575	5,158,873	6,629,988	6,965,532	25,325,375	7,250,303	7,542,071	7,069,797	8,349,391	8,799,941	<b>64,336,878</b> A
B SIF Revenues	2,341,834	2,422,228	2,543,468	2,671,151	2,804,327	12,783,007	2,943,421	3,422,814	3,588,854	3,761,737	3,924,581	<b>30,424,414</b> B
C Aid to Construction	3,056,400	-	-	-	-	3,056,400	-	-	-	-	-	<b>3,056,400</b> C
D Interest on Investments	\$157,930	\$161,150	\$84,970	\$128,920	\$143,380	676,350	\$168,210	\$290,580	\$469,570	\$383,470	\$361,550	<b>2,349,730</b> D
E General Fund Contribution	\$750,000	\$750,000	\$750,000	\$0	\$0	2,250,000	\$0	\$0	\$0	\$0	\$0	<b>2,250,000</b> E
F External Loan Receipts	\$0	\$4,000,000	\$0	\$0	\$0	4,000,000	\$13,000,000	\$0	\$0	\$0	\$5,000,000	<b>22,000,000</b> F
G Internal Loan Repayment	(783,750)	(772,500)	(761,250)	-	-	(2,317,500)	-	-	-	-	-	<b>(2,317,500)</b> G
H External Loan Repayment	(1,015,685)	(1,015,593)	(1,267,685)	(1,266,327)	(1,264,342)	(5,829,633)	(1,266,729)	(2,084,929)	(2,085,902)	(2,086,087)	(2,090,474)	(15,443,753) H
Total Revenue	\$ 12,557,196 \$	15,286,436 \$	9,531,945 \$	12,938,511 \$	13,769,745 \$	45,793,060 \$	27,192,363 \$	17,472,814 \$	21,733,151 \$	20,499,868 \$	25,266,239 \$	112,505,229
Expenditures												
Capital Projects												
1 WA - 16" Mountain View Discharge in Boyd Lake Avenue	721,500	-	-	-	-	721,500	-	-	-	-	-	<b>721,500</b> 1
2 WA - 29th Street 5.0 MG Storage Tank #2	648,000	9,204,233	-	-	-	9,852,233	-	-	-	-	-	<b>9,852,233</b> 2
3 WA - 402 Waterline Extension	-	-	-	169,950	803,180	973,130	11,408,435	-	-	-	-	<b>12,381,565</b> 3
4 WA - Cold Storage Building	7,500	157,944	-	-	-	165,444	-	-	-	-	-	<b>165,444</b> 4
5 WA - Mod Valve Vault Rehabilitation	832,500	-	-	-	-	832,500	-	-	-	-	-	<b>832,500</b> 5
6 WA - Namaqua Hills Pump Station	10,000	681,795	-	-	-	691,795	-	-	-	-	-	<b>691,795</b> 6
7 WA - New Water Lines	-	-	695,560	3,625,592	3,081,620	7,402,772	812,690	612,580	6,877,668	-	-	<b>15,705,710</b> 7
8 WA - Oversizing & Extensions	75,000	78,190	81,510	84,970	88,590	408,260	92,350	96,280	100,370	104,630	109,080	<b>910,970</b> 8
9 WA - P1 Pump Replacement 29th Street	505,000	-	-	-	-	505,000	-	-	-	-	-	<b>505,000</b> 9
10 WA - P2 Water Pump Station & Discharge Piping	3,805,620	-	-	-	-	3,805,620	-	-	-	-	-	<b>3,805,620</b> 10
11 WA - Pump Stations & Water Tanks	-	-	-	56,650	177,170	233,820	2,050,190	-	-	767,310	10,465,000	<b>13,516,320</b> 11
12 WA - Right of Way Relocates	75,000	78,190	81,510	84,970	88,590	408,260	92,350	96,280	100,370	104,630	109,080	<b>910,970</b> 12
13 WA - Water Line Replacements	112,000	1,707,615	1,875,825	3,257,365	3,336,739	10,289,544	3,478,554	3,722,672	3,880,886	4,045,818	4,163,230	<b>29,580,704</b> 13
14 WA - Water Main Replacement Projects	-	33,360	710,771	-	-	744,131	-	-	417,530	5,930,609	-	<b>7,092,270</b> 14
15 WA - Water Meters	198,000	206,420	215,180	224,330	233,870	1,077,800	243,800	254,170	264,970	276,230	287,980	<b>2,404,950</b> 15
16 WA - Water Treatement Plant Expansion Projects	-	83,400	965,085	-	-	1,048,485	-	-	-	-	290,880	<b>1,339,365</b> 16
17 WA - Water Treatment Plant Improvements	-	-	-	313,836	862,827	1,176,663	683,397	-	-	-	-	<b>1,860,060</b> 17
18 WA - Water Treatment Plant Residual Storage Pad	15,000	31,720	131,724	-	-	178,444	-	-	-	-	-	<b>178,444</b> 18
Subtotal Capital Projects	\$ 7,005,120 \$	12,262,867 \$	4,757,165 \$	7,817,663 \$	8,672,586 \$	40,515,401 \$	18,861,766 \$	4,781,982 \$	11,641,794 \$	11,229,227 \$	15,425,250	102,455,420
New & Replacement Equipment												
19 WA - Lab Equipment Replacement	25,000	-	-	-	-	25,000	28,320	-	-	-	-	<b>53,320</b> 19
20 WA - Vehicle Replacements	155,500	-	-	-	-	155,500	-	-	-	-	-	<b>155,500</b> 20
Subtotal New & Replacement Equipment	\$ 180,500 \$	- \$	- \$	- \$	- \$	180,500 \$	28,320 \$	- \$	- \$	- \$	-	208,820
Total Capital Projects & Equipment	\$ 7,185,620 \$	12,262,867 \$	4,757,165 \$	7,817,663 \$	8,672,586 \$	40,695,901 \$	18,890,086 \$	4,781,982 \$	11,641,794 \$	11,229,227 \$	15,425,250 \$	102,664,240
Reserve for Future Capital Projects	\$ 5,371,576 \$	3,023,569 \$	4,774,780 \$	5,120,848 \$	5,097,158 \$	5,097,158 \$	8,302,277 \$	12,690,832 \$	10,091,357 \$	9,270,641 \$	9,840,989 \$	9,840,989

#### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - 16" Mountain View Discharge in Boyd Lake Ave

REQUEST CODE CIP-300-45-300-0000-19-174 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1704D

NA

#### PROJECT DESCRIPTION / NECESSITY

16 Mtn View Discharge in Boyd Lake Ave



Install parallel discharge pipe from Mountain View Pump Station to existing 24" ductile iron pipe in Boyd Lake Avenue, north of Highway 34. It is expected that the waterline will be a 16" polyvinyl chloride waterline that will be directionally drilled beneath Highway 34 (500'). Portions of the remaining open cut (3,000') may be funded by development. Mountain View pump station was designed to have a 24" discharge pipe feeding the P8 zone. A 16" waterline was installed instead. Presently the pump station operates at flow rate of 3,500 gpm. The master plan flow rate is 12,600 gpm, which yields velocities over 20 fps and result in prohibitive headloss. The parallel line will meet master planned demand in the P8 zone.

#### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	65,000	0	0	0	0	0	65,000
Construction	650,000	0	0	0	0	0	650,000
1% for the Arts	6,500	0	0	0	0	0	6,500
Total	721,500	0	0	0	0	0	721,500

	2019	2020	2021	2022	2023	2024-2028	Total
Water SIF Fund Balance	721,500	0	0	0	0	0	721,500
Total	721,500	0	0	0	0	0	721,500

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - 29th Street 5.0 MG Storage Tank #2

REQUEST CODE CIP-300-45-300-0000-19-166 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1904D All Projects

### PROJECT DESCRIPTION / NECESSITY

5.0 MG Water Storage 29th St Tank #2



The 29th Street steel tank is one of the most utilized storage facilities supporting over a quarter of the City's water customers. This project will provide a second 5.0 million gallon (MG) storage tank at this critical location.

The additional storage will offer redundancy and reliability for water customers in Northwest Loveland. As of 2015, the City is 3.5 MG short of required storage in the gravity zone (not including P8). This is based on American Water Works Association (AWWA) recommendations of having storage of 75% of max daily demand (MDD). This value does not include any dead storage in existing tanks.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	648,000	675,540	0	0	0	0	1,323,540
Construction	0	8,444,250	0	0	0	0	8,444,250
1% for the Arts	0	84,443	0	0	0	0	84,443
Total	648,000	9,204,233	0	0	0	0	9,852,233

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	129,600	1,840,847	0	0	0	0	1,970,447
Water SIF Fund Balance	518,400	7,363,386	0	0	0	0	7,881,786
Total	648,000	9,204,233	0	0	0	0	9,852,233

### 300-45-300-0000-300-BF-Executive

### **REQUEST NAME**

WA - 402 Waterline Extension

### **REQUEST CODE**

CIP-300-45-300-0000-19-175

### REQUEST TYPE

Capital Improvement Program

### **Start Date**

1/1/2019

### PROJECT DESCRIPTION / NECESSITY



As annexation and growth occurs along Colorado State Highway 402 the City anticipates extending water service along the corridor to meet demands.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	0	0	0	169,950	803,180	837,320	1,810,450
Construction	0	0	0	0	0	10,466,450	10,466,450
1% for the Arts	0	0	0	0	0	104,665	104,665
Total	0	0	0	169,950	803,180	11,408,435	12,381,565

	2019	2020	2021	2022	2023	2024-2028	Total
Water SIF Fund Balance	0	0	0	169,950	803,180	11,408,435	12,381,565
Total	0	0	0	169,950	803,180	11,408,435	12,381,565

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Cold Storage Building

REQUEST CODE CIP-300-45-300-0000-19-208 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME
Cold Storage Building

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1801D All Projects

### PROJECT DESCRIPTION / NECESSITY



The building is needed to store the loader, boat, miscellaneous equipment, and supplies. Currently these items are stored outside, moving them inside should extend their life and improve working conditions for the employees.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	7,500	0	0	0	0	0	7,500
Construction	0	156,380	0	0	0	0	156,380
1% for the Arts	0	1,564	0	0	0	0	1,564
Total	7,500	157.944	0	0	0	0	165,444

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	3,750	78,972	0	0	0	0	82,722
Water SIF Fund Balance	3,750	78,972	0	0	0	0	82,722
Total	7,500	157,944	0	0	0	0	165,444

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Modular Valve Vault Rehabilitation

REQUEST CODE CIP-300-45-300-0000-19-178 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT # W1802C PROJECT AREA

NA

PROJECT DESCRIPTION / NECESSITY



Mod Valve Vault Rehabilitation

The existing City water transmission modulating valve vault will be rehabilitated to ensure it is safe, efficient, and robust for current and future water delivery. It is anticipated that a formal valve vault will be constructed, pipes properly abandoned, a second modulating valve installed, pipe coating, and additional safety improvements will be completed. The existing valve vault has abandoned live pipes kicked against walls, dangerous access, and works as a hydraulic bottleneck with all of the water used within the City passing through one 30" modulating valve.

#### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	75,000	0	0	0	0	0	75,000
Construction	750,000	0	0	0	0	0	750,000
1% for the Arts	7,500	0	0	0	0	0	7,500
Total	832,500	0	0	0	0	0	832,500

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	832,500	0	0	0	0	0	832,500
Total	832,500	0	0	0	0	0	832,500

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Namaqua Hills Pump Station

REQUEST CODE CIP-300-45-300-0000-19-180 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1911C All Projects

### PROJECT DESCRIPTION / NECESSITY



Namaqua Hills Pump Station

Currently there is a pump station that feeds the upper loop of homes in the Namaqua Hills Subdivision. The pump station was built in 1962 and the components have reached the end of their useful life. The pumps, piping, and SCADA equipment is to be replaced to ensure reliable service to customers.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	10,000	50,040	0	0	0	0	60,040
Construction	0	625,500	0	0	0	0	625,500
1% for the Arts	0	6,255	0	0	0	0	6,255
Total	10.000	681.795	0	0	0	0	691,795

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	10,000	681,795	0	0	0	0	691,795
Total	10,000	681,795	0	0	0	0	691,795

### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - New Water Lines

REQUEST CODE

REQUEST TYPE

CIP-300-45-300-0000-19-176

Capital Improvement Program

### **Start Date**

1/1/2019

### PROJECT DESCRIPTION / NECESSITY



Please see next page for Description.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	0	0	369,520	539,310	344,900	1,191,250	2,444,980
Construction	0	0	326,040	3,059,090	2,716,640	7,048,590	13,150,360
1% for the Arts	0	0	0	27,192	20,080	63,098	110,370
Total	0	0	695,560	3,625,592	3,081,620	8,302,938	15,705,710

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	0	0	63,470	646,261	437,733	1,704,150	2,851,615
Water SIF Fund Balance	0	0	632,090	2,979,331	2,643,887	6,598,788	12,854,095
Total	0	0	695,560	3,625,592	3,081,620	8,302,938	15,705,710

### **Description**

16" P8 Extension - \$2,478,130

The City's water system is comprised on numerous pressure zones. All water infrastructure east of Boyd Lake Avenue and north of East Eisenhower is in the PW water (pressure) Zone. There are currently two feeds (from the gravity pressure zone) into the zone in Boyd Lake Avenue. The water master plan calls for a third connection to the P8 zone crossing East Eisenhower at Rocky Mountain Ave. This project extends the required 16" waterline, along the south side of East Eisenhower, as development occurs along adjacent properties.

### East Gravity Zone 24" - \$12,540,572

Installation of a 24" water main loop around the southeast portion of the City to meet increasing demands as a result of development. The proposed water main loop is necessary to provide transmission and distribution to the eastern portion of the gravity zone. This water main loop will be built in multiple phases as development occurs.

#### 16" in Granite (57th Street to 50th Street) - \$687,008

Install a 16" water line in Granite Street between 57th Street and 50th Street. The 16" waterline will provide a valuable loop and has been recommended by hydraulic modeling studies. This waterline will ensure adequate levels of service in both pressure and flow to customers in North Loveland, and will provide needed redundancy in the event of a water line break.

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Oversizing & Extensions

REQUEST CODE CIP-300-45-300-0000-19-182 **REQUEST TYPE** 

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1207D NA

### PROJECT DESCRIPTION / NECESSITY

MISC OVERSIZING AND EXTENSIONS



As development occurs the City through a reimbursement agreement funds capacity being built for master plan needs, that is in excess of what is specifically required for an individual development.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Construction	75,000	78,190	81,510	84,970	88,590	502,710	910,970
Total	75,000	78,190	81,510	84,970	88,590	502,710	910,970

	2019	2020	2021	2022	2023	2024-2028	Total
Water SIF Fund Balance	75,000	78,190	81,510	84,970	88,590	502,710	910,970
Total	75,000	78,190	81,510	84,970	88,590	502,710	910,970

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - P1 Pump Replacement 29th Street

REQUEST CODE CIP-300-45-300-0000-19-179 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1910C All Projects

#### PROJECT DESCRIPTION / NECESSITY



P1 Pump Replacement 29th St

The existing pump station situated at 29th St. and Cascade serves the P1 pressure zone. Currently there are two 50-hp and two 100-hp pumps in the pump station. Due to increased demand within the pressure zone the two 50-hp pumps are to be replaced with 100-hp pumps. This will ensure that current and future customers receive sufficient water pressure and supply.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Construction	500,000	0	0	0	0	0	500,000
1% for the Arts	5,000	0	0	0	0	0	5,000
Total	505,000	0	0	0	0	0	505,000

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	505,000	0	0	0	0	0	505,000
Total	505,000	0	0	0	0	0	505,000

### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - P2 Water Pump Station & Discharge Piping

REQUEST CODE CIP-300-45-300-0000-19-177 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1706D

NA

#### PROJECT DESCRIPTION / NECESSITY

P2 Water Pump Station & Discharge Piping



Pay for a portion (~25%) of pumping improvements at the 29th Street pump station to feed approved development within the P2 zone. Future development within the P2 zone will require the 29th Street pump station to be constructed. The pump station will be located adjacent to the existing P1 pump station. The City is responsible for a portion of the work through a development agreement. To facilitate this there may be additional piping that needs to be completed by the City. The project will be financed primarily (~75%) by developers who need the station constructed to serve future development in the P2 pressure zone.

#### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	309,000	0	0	0	0	0	309,000
Construction	3,462,000	0	0	0	0	0	3,462,000
1% for the Arts	34,620	0	0	0	0	0	34,620
Total	3.805.620	0	0	0	0	0	3.805.620

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	720,920	0	0	0	0	0	720,920
Water SIF Fund Balance	3,084,700	0	0	0	0	0	3,084,700
Total	3,805,620	0	0	0	0	0	3,805,620

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Pump Stations & Water Tanks

REQUEST CODE
CIP-300-45-300-0000-19-181

REQUEST TYPE

Capital Improvement Program

### **Start Date**

1/1/2019

### PROJECT DESCRIPTION / NECESSITY



Please see next page for Description.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	0	0	0	56,650	177,170	2,750,230	2,984,050
Construction	0	0	0	0	0	10,427,990	10,427,990
1% for the Arts	0	0	0	0	0	104,280	104,280
Total	0	0	0	56,650	177,170	13,282,500	13,516,320

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	0	0	0	56,650	88,585	3,358,822	3,504,057
Water SIF Fund Balance	0	0	0	0	88,585	9,923,678	10,012,263
Total	0	0	0	56,650	177,170	13,282,500	13,516,320

### **Description**

Morning Drive Pump Station - \$2,284,010

The Morning Drive Pump Station was constructed in 1976. The station delivers water to the 29th Street storage tank, which serves over a quarter of the City's customers. This project will upgrade the Morning Drive Pump Station (pumps, piping, valves, controls, Motor Control Center (MCC) etc.).

Equipment is aging and the pump station will require an upgrade to re-size facilities to meet the needs of the City's growing system. Existing MCCs are over 30 years old and are becoming obsolete. If there is a MCC failure, we will have to try and find parts and pay a premium for them. The MCCs are critical to the pumps at Morning Drive running and supplying water to the 29th Street tank

#### Southwest Booster Station - \$290,880

Build a water pump station at a to-be-determined location within the southwest portion of the City. To meet the increasing water demands and meet minimum pressure requirements within the City, a water pump station will be necessary. The water pump station will help move water to the east side of the City.

#### 3.5 Million Gallon Storage Tank at 43rd Street (Tank #2) - \$707,420

Build a second tank at the 43rd Street site. To meet the increasing water demands in the P1 pressure zone that are a result of increased population in the northwest portion of the City.

#### 2.0 Million Gallon Storage Tank at Dakota Ridge - \$10,234,010

A 2.0 MG storage tank is needed to meet future demands in the P2 Zone. The timing of the tank is estimated based on the proposed development in the area. The additional water storage will allow the proposed 29th Street pump station P2 expansion to operate more efficiently, rather than having existing pumps running continuously.

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Right of Way Relocates

REQUEST CODE CIP-300-45-300-0000-19-171 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME
Right of Way Relocates

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1902C All Projects

### PROJECT DESCRIPTION / NECESSITY



These funds are budgeted for Right of Way relocates.

Projects included are typically waterline relocates or system improvements that arise from development or become known through other capital projects (such as street widening).

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Construction	75,000	78,190	81,510	84,970	88,590	502,710	910,970
Total	75,000	78,190	81,510	84,970	88,590	502,710	910,970

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	75,000	78,190	81,510	84,970	88,590	502,710	910,970
Total	75,000	78,190	81,510	84,970	88,590	502,710	910,970

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Waterline Replacement

REQUEST CODE CIP-300-45-300-0000-19-172 **REQUEST TYPE** 

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

Waterline Replacement

PROJECT PRIORITY #

PROJECT #

PROJECT AREA

W1903C All Projects

#### PROJECT DESCRIPTION / NECESSITY



Replace aging water infrastructure. Typically, most communities face increasing replacement costs as the age of installed infrastructure advances. After decades, water pipes, valves, and fire hydrants reach the end of their service life and require increasing maintenance and rehabilitation costs. In some cases, these costs can become unacceptably high and the utility is best served by replacing this infrastructure.

#### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	112,000	233,520	339,080	396,550	354,340	2,366,640	3,802,130
Construction	0	1,459,500	1,521,530	2,832,490	2,952,870	16,756,950	25,523,340
1% for the Arts	0	14,595	15,215	28,325	29,529	167,570	255,234
Total	112,000	1,707,615	1,875,825	3,257,365	3,336,739	19,291,160	29,580,704

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	112,000	1,707,615	1,875,825	3,257,365	3,336,739	19,291,160	29,580,704
Total	112,000	1,707,615	1,875,825	3,257,365	3,336,739	19,291,160	29,580,704

### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Water Main Replacement Projects

REQUEST CODE CIP-300-45-300-0000-19-173 REQUEST TYPE

Capital Improvement Program

### **Start Date**

1/1/2019

### PROJECT DESCRIPTION / NECESSITY



Please see next page for Description.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	0	33,360	52,170	0	0	852,800	938,330
Construction	0	0	652,080	0	0	5,440,930	6,093,010
1% for the Arts	0	0	6,521	0	0	54,409	60,930
Total	0	33,360	710,771	0	0	6,348,139	7,092,270

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	0	33,360	710,771	0	0	6,348,139	7,092,270
Total	0	33,360	710,771	0	0	6,348,139	7,092,270

#### **Description**

24" & 48" Cathodic Protection - \$507,207 Metallic pipe materials are susceptible to corrosion in the right environment. This project includes installing anodes on both transmission mains as a source metal (as opposed to the pipe) for any corrosion cell that may form along the pipeline. These anodes are typically magnesium, which is more active (has a higher negative potential) than the protected pipe. The existing waterlines have little or no anode protection left based on field readings. Therefore, corrosion is and will continue on the mains.

34" Water Line Valve Insertions - \$236,924 Study and implementation of improvements, primarily the insertion of butterfly valves, for isolation, of the 34" steel waterline that runs along the Arkin's Branch railroad. Additional assessment of the pipe's condition and possible cathodic protection improvements. The existing 34" steel waterline, installed in 1962, has no isolation valves from Namaqua Avenue to N. Colorado Avenue (~10,000 ft). From the Riverview Drive junction vault (east of Rossum Drive), there is one isolation valve prior to Namaqua Avenue. The aging transmission line feeds numerous distribution lines and presently is very difficult if not impossible to isolate for repairs.

36" Transmission Line Relining - \$6,348,139 The City's existing 36" steel water transmission main was constructed in 1962 and is showing signs of significant deterioration from external corrosion. Staff has made numerous repairs and pipe river crossing replacements completed in 2015 have shown significant external corrosion where the pipe was laid on bedrock and backfilled with native cobbles. In 2016 significant leakage out of the pipe due to corrosion holes was verified through the use of a free swimming inspection tool. Lining of the deteriorating 36" steel waterline will reduce risk of catastrophic failure, decrease repairs, reduce water loss, and extend the assets useful life for decades to come.

300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

REQUEST CODE

REQUEST TYPE

WA - Water Meters

CIP-300-45-300-0000-19-207

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME
WATER METERS

PROJECT PRIORITY #

PROJECT # WA900 PROJECT AREA

NA

### PROJECT DESCRIPTION / NECESSITY



These funds are budgeted for Water Meters for new construction and for replacement of old meters.

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Construction	198,000	206,420	215,180	224,330	233,870	1,327,150	2,404,950
Total	198,000	206,420	215,180	224,330	233,870	1,327,150	2,404,950

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	198,000	206,420	215,180	224,330	233,870	1,327,150	2,404,950
Total	198,000	206,420	215,180	224,330	233,870	1,327,150	2,404,950

### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Water Treatment Plant Expansion Projects

REQUEST CODE CIP-300-45-300-0000-19-210 REQUEST TYPE

Capital Improvement Program

### **Start Date**

1/1/2019

### PROJECT DESCRIPTION / NECESSITY



Sedimentation #2 Sludge Collection Rehabilitation - \$1,048,485 Replace the components of the #2 Sedimentation Sludge Collection Station.

Water Treatment Plant Expansion Phase 3 (38 to 46 million gallons per day) - \$290,880 This project will be driven by growth so the timing is not known at this time. The project will include increasing plant capacity from 38 MGD to 46 MGD. The primary improvements necessary for this rerating will be the addition of a new Flocculation/Sedimentation Building, eight additional filters added on to Filter Building 4A, and additional solids handling capacity (sand beds or ponds).

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	0	83,400	86,940	0	0	290,880	461,220
Construction	0	0	869,450	0	0	0	869,450
1% for the Arts	0	0	8,695	0	0	0	8,695
Total	0	83,400	965,085	0	0	290,880	1,339,365

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	0	83,400	965,085	0	0	58,176	1,106,661
Water SIF Fund Balance	0	0	0	0	0	232,704	232,704
Total	0	83,400	965,085	0	0	290,880	1,339,365

### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Water Treatment Plant Improvements

REQUEST CODE CIP-300-45-300-0000-19-211 **REQUEST TYPE** 

Capital Improvement Program

### **Start Date**

1/1/2019

### PROJECT DESCRIPTION / NECESSITY



Admin/Office Renovation - \$742,457

This project includes a major renovation of the existing Water Treatment Plant administration building, which was originally built in 1980, and portions of the former chemical building (which is adjacent). The improvements will include new office space, a conference/training room, new break room, new restrooms, and other miscellaneous improvements.

Pre-Soda Ash System Rehab - \$413,423

With the recent WTP expansion project a new chemical building and chemical feed system were put into

### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	0	0	0	84,970	87,410	61,570	233,950
Construction	0	0	0	226,600	767,740	615,670	1,610,010
1% for the Arts	0	0	0	2,266	7,677	6,157	16,100
Total	0	0	0	313,836	862,827	683,397	1,860,060

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	0	0	0	313,836	862,827	683,397	1,860,060
Total	0	0	0	313,836	862,827	683,397	1,860,060

### 300-45-300-0000-300-BF-Executive

**REQUEST NAME** 

WA - Water Treatment Plant Residual Storage Pad

REQUEST CODE CIP-300-45-300-0000-19-209 REQUEST TYPE

Capital Improvement Program

**Start Date** 

1/1/2019

PROJECT NAME

WTP Residual Storage Pad

PROJECT PRIORITY #

PROJECT#

PROJECT AREA

W1905C All Projects

### PROJECT DESCRIPTION / NECESSITY



As water is treated at the Water Treatment Plant (WTP) residuals are generated through the process. These are solids that come off of the filters or are suspended in the water and removed through the use of coagulants to in the sedimentation process. The storage pad will allow the treatment plant to store residuals longer where they can be dried and then properly disposed of.

#### **Capital Items**

	2019	2020	2021	2022	2023	2024-2028	Total
Engineering	15,000	31,720	0	0	0	0	46,720
Construction	0	0	130,420	0	0	0	130,420
1% for the Arts	0	0	1,304	0	0	0	1,304
Total	15.000	31.720	131.724	0	0	0	178.444

	2019	2020	2021	2022	2023	2024-2028	Total
Water Fund Balance	15,000	31,720	131,724	0	0	0	178,444
Total	15.000	31.720	131,724	0	0	0	178,444