

2024 AGENDA ITEM

Utility Commission Meeting Date: 8/15/2024

ITEM: Capital Improvement Plan Discussion

DETAILED DESCRIPTION OF SUBJECT MATTER:

Review of the 2025-2030 CIP. I have preliminary estimates for the Electrical and Sewer Utility CIP's. We are still waiting for the remaining details for the Water Utility, which we hope to have soon.

LIST ALL SUPPORTING DOCUMENTATION ATTACHED:

1. Draft Sewer CIP
2. Proposed "Forster Electric" CIP
3. Water and Electric Vehicle/Equipment CIP

ACTION REQUESTED OF COMMISSION:

Discussion on Draft CIP.

**SEWER VEHICLE REPLACEMENT SCHEDULE
CAPITAL PLAN 2024-2030**

8/8/2024

		2024	2025	2026	2027	2028	2029	2030
VEHICLES/REPLACEMENT SCHEDULE:								
1	2012 CHEVROLET SILVERADO PICK UP		\$ (10,000)					
2	2015 FORD PICKUP					\$ (10,000)		
3	1983 INTERNATIONAL							
4	2006 VACTOR TRUCK	\$ (90,000)						
5	LAWN MOWER							
6	2021 POLARIS Ranger 1000 EPS UTV							
7	2010 Ford Explorer		\$ (3,000)					
8	Bobcat S 185							
9	2025 Ford F550 (or equivalent) Hoist Truck		\$ 60,000	\$ 60,000	\$ 60,000			
10	2024 VACTOR TRUCK	\$ 200,000						
11	2028 FORD PICKUP					\$ 25,000	\$ 25,000	\$ 25,000
12	Front End Loader Purchase/Agreement Mid State (Estimate have yet to get price could be added to solids project)		\$ 400,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
TOTAL:		\$ 110,000	\$ 447,000	\$ 70,000	\$ 70,000	\$ 25,000	\$ 35,000	\$ 35,000

**COLLECTION SYSTEM
7 YEAR CAPITAL PLAN**

8/8/2024

		2024	2025	2026	2027	2028	2029	2030
GRAVITY SEWER								
	JAMES STREET PRJT/ENGINEERING							
	Collection System Level Sensors/Flow Meters							
	Comprehensive Study on FOG/Industrial Rates/Etc		\$100,000		\$150,000			
	Collection System Sampling Equipment and Lab Fees		\$200,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
	COLLECTION SYSTEM REPAIRS (QUOTE PROVIDED)	\$137,000						
	CONTRACTED JETTING/TELEVISIONING/REPAIRS T&M		\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
PUMP STATION / FORCEMAIN								
	TRANSIT LIFT STATION (CONTROLS & PUMPS)					\$ 60,000		
	TRANSIT LIFT STATION - ACCESS ROAD							
	COMMERCIAL LIFT STATION (PUMPS)						\$ 160,000	
	KIWANIS LIFT STATION (PUMPS, VALVES, MIXER & PIPING/GENERATOR)					\$ 170,000		
	WATERLOO LIFT STATION (VALVE VAULT & WET WELL ADDITION) & ENGINEERING	\$ 189,500						
	WEST SIDE LIFT STATION (PUMP CONTROLS, PUMPS AND WET WELL FLUSHING)				\$ 100,000			
	BIRDSEY LIFT STATION (CONTROL PANEL)		\$ 75,000					
	MEISTER LIFT STATION REFABRICATION & ENGINEERING	\$ 189,500						
	HUGHES LIFT STATION REPLACEMENT							\$ 190,000
	HUGHES LIFT STATION FORCEMAIN REPLACEMENT			\$ 75,000				
	HWY. 89/FARNHAM STREET UPGRADE & ENGINEERING							
	HWY 16/151 INTERCHANGE							
	STREET RECONSTRUCTION PROJECTS		\$ 150,000	\$ 75,000	\$ 175,000	\$ 50,000	\$ 200,000	\$ 200,000
	WEST SIDE LIFT STATION - GENERATOR							
TOTAL - SANITARY COLLECTION SYSTEM		\$ 516,000	\$ 675,000	\$ 320,000	\$ 595,000	\$ 450,000	\$ 530,000	\$ 560,000

**WASTEWATER TREATMENT FACILITY
7 YEAR REPLACEMENT FUND PROJECT LIST**

8/8/2024

	2025	2026	2027	2028	2029	2030
RAW WASTEWATER BUILDING						
SEPTAGE RECEIVING AND HOLDING TANKS		\$ 2,000,000				
CHEM SCAN SYSTEM and Phos Chemical Removal Upgrades	\$100,000					
BAR SCREEN LEVEL SENSORS	\$ 20,000					
MUFFIN MONSTER REBUILD AND REPLACEMENT	\$ 120,000					
REBUILD OF INFLUENT PUMP FLUSH VALVES	\$ 6,000	\$ 6,000	\$ 6,000	\$ 6,000		
2ND BARSCREEN FOR REDUNDANCY					\$ 900,000	
PRIMARY TREATMENT/HEAD WORKS	\$ 30,000		\$ 32,500		\$ 35,000	
SOLIDS BUILDING						
HVAC SYSTEM REPLACE/AIR EXCHANGE UNITS						
TAS Pumping and Mixing Updates	Solids Project					
DECANTING MECHANISMS						
GARAGE - EXHAUST FANS ADDITION						
GRIT GATE ADDITION						
AERATION TANKS						
MIXED LIQUOR DITCH AERATION	\$ 50,000					
GATES						
DIFFUSER REPLACEMENT						
SPLITTER BOX REHAB REPAIR						
CLARIFIERS						
REBUILD OF CLARIFIER #1		\$ 1,500,000				
REBUILD/REDESIGN OF RAS WETWELL		\$ 850,000				
REBUILD OF CLARIFIER #2			\$ 1,500,000			
SCUM PUMPS and FLANGES	\$ 100,000					
Build of NEW Clarifier #3				\$ 4,000,000		
FILTRATION BUILDING (PROCESS)						
REHAB/REBUILD OF SAND FILTER SYSTEM	\$ 450,000					
RIVER LEVEL METER AND EFFLUENT SAMPLING SYSTEM		\$ 120,000				
REMOVING CHEMICAL DISINFECTION/REPLACE WITH OZONE DISINFECTION OR UV					\$ 2,100,000	
FILTRATION BUILDING (ADMINISTRATION)						
SLUDGE MGMT - BLOWERS & PIPING						\$ 200,000
DEWATERING UPGRADES AND REPLACEMENTS (PREVIOUS DRYER PROJECT)	\$ 2,400,000					
SCADA SYSTEM	\$ 30,000					
CMMS - ASSET MANAGEMENT SYSTEM		\$ 125,000				
HVAC/PM/REPAIR CONTRACT T&M	\$ 39,036	\$ 37,404	\$ 37,404	\$ 39,500	\$ 39,500	\$ 39,500
PLC/Fiber installation upgrade	\$ 175,000					
TOTAL - WWTP FACILITY-FACILITY PROJECTS:	\$3,520,036	\$4,638,404	\$1,575,904	\$4,045,500	\$3,074,500	\$239,500

Columbus Utilities Proposed Electrical System Capital Improvement Plan

Latest Revision August 8, 2024

Project Name	2024 Estimated Cost	Reason and/or what is accomplished	Year
Sub #4 Bushings	\$40,000	Substation #4 transformer bushings were damaged by a racoon and need to be replaced	2024
Sub #3 Equipment	\$88,000	Substation #3 equipment previously purchased (transrupter, voltage regulators, & metering) will be installed fall 2024	2024
Substation #2 SCADA connection	\$10,000	Install the communication boards in the voltage regulators. Connect them to existing SCADA equipment. Troubleshoot intermitent fiber connections.	2024
Reconnect Padmount Step-down	\$10,000	Substation #1 4.16 kV transformer is on its last legs and if it fails two of the three pad mount 12.47-4.16 kV transformers are not presently connected and available to pick up load. The one relocated to Ludington St and Hwy 89 should be reconnected so it is ready to serve load. If the rest of the 4.16 kV is converted in the next year, you can take a calaculated risk and just keep the third pad mount available to move into place as a spare.	2025
Complete 4.16 kV Conversion	\$3,300,000	The balance of 4.16 kV load will be converted to the 12.47 kV system. This will be contracted, so that it is accomplished before Substation #1 fails. With a single system voltage, switching is simplified and additional tie circuits from Substation #4 are completed.	2025
Decommission Sub #1	\$10,000	Turn off and scrap Substation #1. Scrap value may be less than disposal costs.	2025
Sell Pad Mount Step-downs	(\$45,000)	These transformers are useful to other utilities going through conversion.	2025

2024 Estimated			
Project Name	Cost	Reason and/or what is accomplished	Year
Bury circuit around Hospital	\$507,000	Overhead lines along Park Avenue and cutting cross country along and behind the Hospital will be buried in new locations.	2026
Contribution from Hospital	(\$507,000)	The work is being requested by the customer and is subject to a contribution in aid of construction	2026
Credit for Load Added	\$109,290	The rate tariff requires a credit for added load be rebated against the customer's extension cost.	2027
Bury balance of Circuit 403	\$495,000	The remaining overhead 4/0 spacer cable sections should be replaced with 500 MCM AL underground from the Hospital back to Substation #4 when the area is developed.	2027
Bury circuit 301	\$700,000	Circuit 301 is using the transmission line wires operated at 12.47 kV. It will need to be buried or underbuilt in order to sell the line to ATC so they can use it to loop Substations #3 and #4. We estimated burying, but we will try to negotiate more favorable terms with ATC to allow it to be underbuilt.	2027
Sell 69 kV line to ATC	\$0	Assume the line is fully depreciated	2027
Construct a 304 to 205 tie circuit	\$1,640,000	This will separate feeds to APC and GAR, allowing full backup capacity to each and allowing load growth to the north.	2028
Increase Substation #2 capacity	\$2,106,000	Substation #2 transformer is 42 years old and is undersized compared to Substations #3 and #4 and is therefore the limiting factor for single contingency reliable system capacity. We propose replacing it with a new 12/22.4 MVA standard capacity. This new standard will be used as other substations are upgraded in the future and will allow you to grow with only the three existing substation sites.	2029
Total	\$8,463,290		

**WATER & ELECTRIC VEHICLE REPLACEMENT SCHEDULE
CAPITAL PLAN 2024-2030**

8/8/2024

	2024	2025	2026	2027	2028	2029	2030
VEHICLES/REPLACEMENT SCHEDULE:							
22							
23					\$ (20,000)		
25		\$ (25,000)					
26		\$ (75,000)				\$ (20,000)	
27							
28							
29							
31							
32							
142		\$ 3,000	\$ (25,000)				
143			\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000
		\$ 158,580	\$ 154,800	\$ 154,800			
		\$ 31,920	\$ 31,920	\$ 31,920			
		\$ 13,300					
		\$ 79,998	\$ 4,900	\$ 4,900	\$ 4,900	\$ 4,900	\$ 4,900
			\$ 35,000	\$ 35,000	\$ 35,000		
					\$ 125,000	\$ 125,000	\$ 125,000
						\$ 140,000	\$ 140,000
TOTAL:	\$ -	\$ 186,798	\$ 204,620	\$ 229,620	\$ 147,900	\$ 252,900	\$ 272,900

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