



PORTLAND BUREAU OF ENVIRONMENTAL SERVICES

working for clean rivers



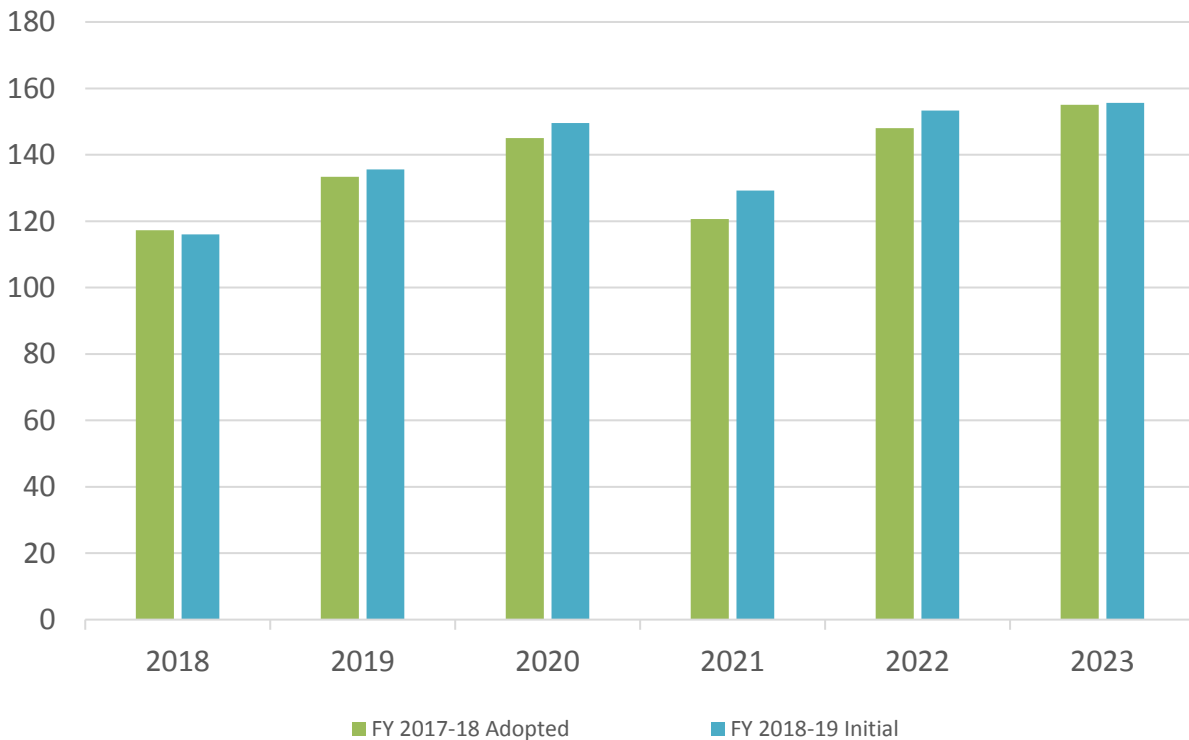
Capital Improvement Program

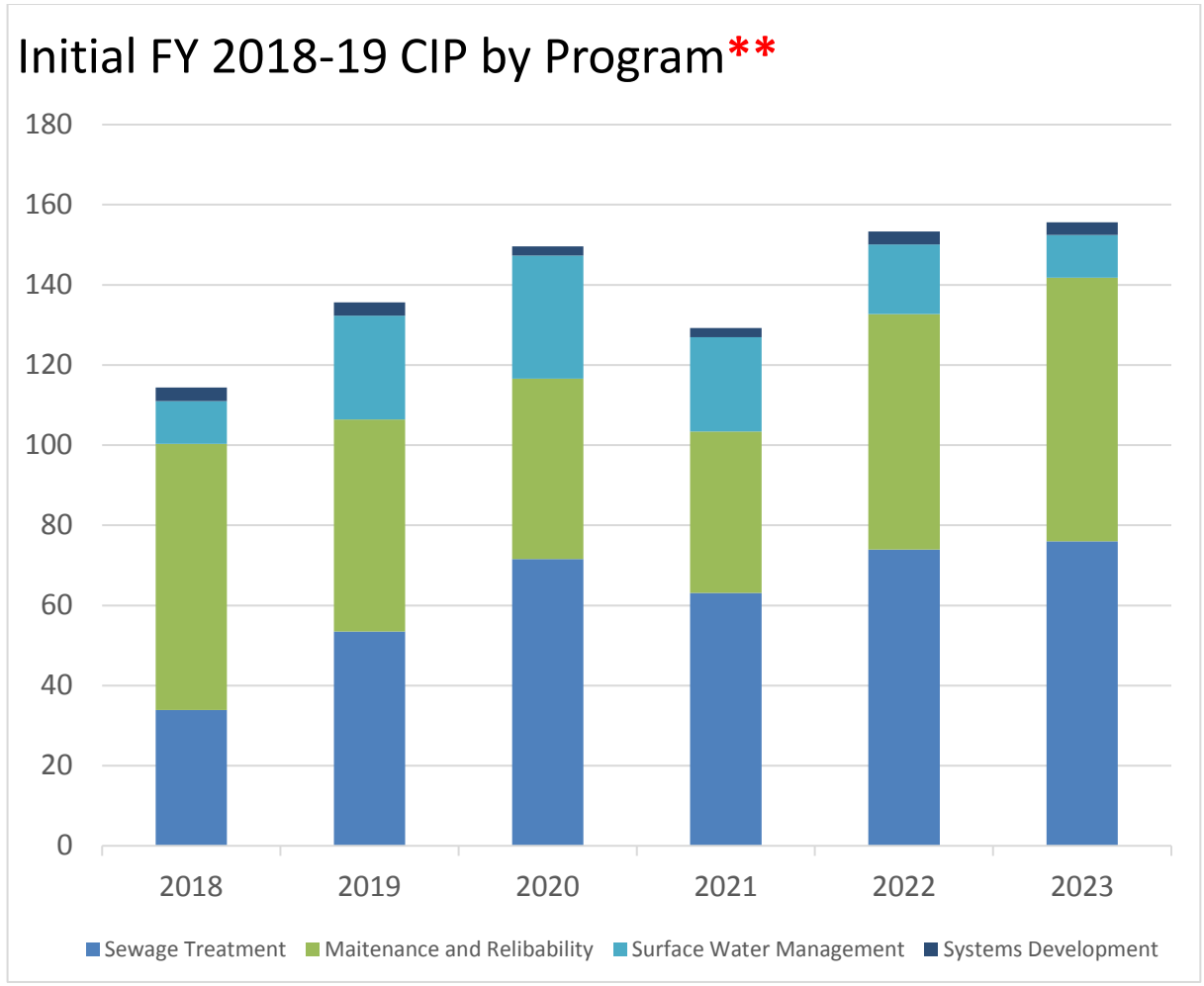
The Bureau of Environmental Services (BES) serves the Portland community by protecting public health, water quality and the environment. We provide sewage and stormwater collection and treatment services to accommodate Portland's current and future needs. The bureau combines asset-management planning with programmatic planning as well as various technical reviews/studies to recommend the most effective mix of capital projects.

BES MAJOR CIP PROGRAMS

- Maintenance and Reliability
- Sewage Treatment
- Surface Water Management
- Systems Development

Initial FY 2018-19 CIP 5-Year Comparison **





** BES intends to remain at the CIP funding levels approved last year, adjusted for inflation. The comparison figures shown do indicate higher levels than previously approved. These numbers will be adjusted in coming weeks as additional CIP planning and analysis is completed.

FY 2018-19 5-Year CIP Program Comparison

	FY 2017-18 CIP	FY 2018-19 CIP	Difference
Sewage Treatment	\$264.8 Million	\$338 Million	\$73.2 Million
Maintenance and Reliability	\$321.3 Million	\$262.9 Million	-\$58.4 Million
Surface Water Management	\$63.6 Million	\$108.1 Million	\$44.6 Million
Systems Development	\$14.8 Million	\$14.2 Million	-\$0.5 Million

FY 2018-19 New Major Projects

For Fiscal Year (FY) 2018-19, the bureau proposes to begin \$28.0 million in new projects primarily focusing on Columbia Blvd Water Treatment Plant (CBWTP).

	Initial Total	*FY 2018-19 Amount
CBWTP Digst Domes	\$15.0 Million	\$0
CBWTP Blowers	\$13.0 Million	\$0

* Preparation begins in FY19; CIP work starts FY20

1. The **digester domes at CBWTP** are the oldest of their kind in the country and are in poor condition. These components are critical to the operation of the plant and there is a high risk of failure. The project will replace the digester domes, metal components of the tanks and will upgrade outdated process equipment.
2. The **blower system at CBWTP** is almost 50 years old and past its estimated useful life. Parts are no longer available and must be custom fabricated at high cost. The project will replace the aeration blower and supply system with modern equipment, thus reducing operating risks and increasing energy efficiency.

CIP Development FY19-28		2019	2020	2021	2022	2023	5-Year To
SEWAGE TREATMENT							
E04891	Rehab; Repair & Modifications	4,000	4,000	4,000	6,000	6,000	24,000
E06072	CBWTP Lagoon	5,100	1,600	110	150	625	7,585
E10753	Automation Network Reliability	40	0	0	0	0	40
E10032	TCWTP PLC System Replacement	50	0	0	0	0	50
E07947	CBWTP Secondary Trmt Expansion	6,634	14,335	19,103	36,507	40,409	116,988
E10033	CBWTP Biogas	6,600	200	0	0	0	6,800
E06077	CBWTP Seismic Improvement	0	0	0	0	217	217
E06923	WWTF Outfall Diffuser Improvement	700	1,294	10	0	0	2,004
E10483	CBWTP Reuse System Replacement	0	0	430	435	2,500	3,365
E10567	CBWTP WASH & HYPO TNL Piping REPLC	3,300	1,075	0	0	0	4,375
E10804	CBWTP Organic Waste Receiving Facility	675	3,600	350	0	0	4,625
E10805	CBWTP Headworks Screenings Improvemts	2,500	4,000	2,468	0	0	8,968
E10897	CBWTP - Substation Replacement	750	1,500	2,500	0	0	4,750
E10893	CBWTP - Residuals Handling Improvements	0	0	500	500	500	1,500
E10898	CBWTP Fiber System Reliability	200	400	100	0	0	700
E10038	CBWTP Blower System\Building Imps (PRF FY19)	0	110	650	1,400	5,883	8,043
E11039	CBWTP Digesters 1-4 Updgrade (PRF FY19)	0	878	1,605	1,174	4,452	8,109
E10657	Pump Station Improvement Program, FY15-19	6,000	6,000	6,000	10,000	10,000	38,000
E10529	Airport 1 Pump Station Improvements	504	0	0	0	0	504
E10611	Force Ave Pump Station Remodel	291	2,397	1,847	28	0	4,563
E10359	Alder Pump Station Upgrade	2,112	42	0	0	0	2,154
E10807	Inverness PS Force Main System Improvmts	1,500	2,800	2,200	2,530	1,000	10,030
E10975	Tryon Creek PS Reconstruction (under E10970)	500	500	1,300	1,000	100	3,400
E10976	Tryon Creek Interceptor Replacement (under E10970)	2,500	10,700	6,000	2,000	1,500	22,700
E10694	TCWTP Secondary Process Improvements	1,500	2,000	1,500	120	0	5,120
E10581	TCWTP Secondary Clarifier Addition	0	0	0	0	103	103
E10582	TCWTP Headworks Improvements	8,000	14,000	12,000	11,000	1,000	46,000
E11041	TCWTP Disinfection Imps (PRF FY19)	0	75	300	942	1,052	2,369
E11037	TCWTP Bankside Outfall (PRF FY19)	0	34	133	133	686	986
	Subtotal	53,456	71,540	63,106	73,919	76,027	338,048
MAINT & RELIABILITY							
E04861	Maintenance Capital - Const - Shell	1,000	1,000	1,000	1,000	1,000	5,000
E10216	Stark HSS-17	900	1,500	1,600	1,700	3,000	8,700
E08656	Beech-Essex CP-J	300	800	3,300	500	0	4,900
E10028	Southwest Tanner	800	1,200	3,400	1,900	1,000	8,300
E10663	Slabtown Sewer Replacement	5,530	538	38	0	0	6,105
E10692	Northeast Fremont	0	0	0	0	528	528
E10693	Central Tanner	0	0	0	0	750	750
E10696	NW Thurman St Reconstruction	960	3,619	19	15	0	4,613
E10489	Richmond Neighborhood Sewer Rehab/GrnSt	0	0	100	550	3,500	4,150
E10030	SE Interceptor Rehabilitation	500	0	0	0	0	500
E10031	Phase 2 Pipe Rehab	1,000	0	0	0	0	1,000
E10219	Wheeler WHE-04	3,600	100	0	0	0	3,700
E10367	Sunnyside North Recon/GRST	7,000	200	0	0	0	7,200
E10368	Sunnyside South Recon/GRST	1,800	5,000	350	0	0	7,150
E10369	Ladd's Addition South Recon/GRST	700	2,000	150	0	0	2,850
E10370	Sunnyside East Recon/GRST	3,831	29	5	0	0	3,865
E10371	Buckman East Recon/GRST	500	1,300	1,500	3,000	0	6,300
E10220	Structural Rehabilitation Taggart OF 30	2,500	6,500	50	0	0	9,050
E10474	Burlingame Basin I/I	6,700	105	90	90	90	7,075
E10500	Phase 3 Pipe Rehab	5,000	4,000	9,000	16,000	14,300	48,300
E10576	Large Diameter Sewer Rehab	2,000	6,000	7,000	26,000	25,000	66,000
E10594	Capital Maint-Non Process Facilities	1,000	2,000	1,500	1,000	1,000	6,500
E10656	Maintenance Capital - Contract, FY15-19	5,100	3,500	4,000	4,000	4,000	20,600
E10808	Small Urgent Capacity Projects - NEW	1,000	1,000	1,000	1,000	1,000	5,000
	Downtown Old Town Program	1,250	4,690	6,230	2,000	10,590	24,760
	Subtotal	52,971	45,080	40,332	58,755	65,758	262,896

		2019	2020	2021	2022	2023	5-Year To
SURFACE WATER MGMT							
E07158	Johnson Crk River Mile 9.6 Floodplain Re	600	20	20	0	0	640
E07383	Springwater Wetland	500	500	3,000	150	0	4,150
E08247	Brunkow	0	1,000	1,650	50	0	2,700
E08406	Johnson Cr Oxbow	200	1,350	0	0	0	1,550
E10854	Luther Rd. Restoration	500	585	15	0	0	1,100
E10993	West Lents Floodplain Restoration	400	450	3,000	2,250	250	6,350
E10996	JC Oxbow Permanent Scour Repair	220	0	0	0	0	220
E08675	Fanno Beaverton Hillsdale Hwy	800	200	1,000	1,000	0	3,000
E08682	Boones Ferry Culvert	1,800	4,100	0	0	0	5,900
E10691	SW Shattuck Rd Culvert Replacement	0	0	0	103	98	201
E08576	Oaks Bottom Culvert Replacement	1,800	0	0	0	0	1,800
E08782	Watershed Investment Program	1,500	0	0	0	0	1,500
	<i>Watershed Investment Program-New10 Yrs Program</i>	0	1,500	1,500	1,500	1,500	6,000
E08905	G2G Land Acquisition	45	0	0	0	0	45
E09113	1% FOR GREEN STREETS	450	450	450	450	0	1,800
E10040	JC Willing Seller Phase 2	1,500	1,500	1,500	1,500	500	6,500
E10373	Fanno/Tryon Drainage Shoulder Improvemnt	133	521	681	681	0	2,016
E10486	Watershed Land Acquisition Program	2,000	2,000	2,000	2,000	2,000	10,000
E10488	Stephens Creek Phase 1 Improvements	1,728	1,442	0	0	0	3,170
	E10721 SC Right of Way Retrofit (Need CIPAC Request)	78	422	0	78	422	1,000
E10502	Hwy 43 Tryon Creek Culvert	150	480	0	0	0	630
E10563	CS Outfalls	2,843	5,971	5,928	7,165	3,633	25,540
E10583	Balch Creek Trash Rack Retrofit	277	74	828	0	0	1,179
E10809	Culverts Phase 3	300	200	1,590	250	2,000	4,340
E10939	SW Capital Hwy Stormwater Improvements	3,849	5,410	0	0	0	9,259
E10941	Hillsdale Crest RDII	4,000	2,240	60	0	0	6,300
	Reveg Plant Est Umbrella - New 2yrs Program	250	250	250	250	250	1,250
	Subtotal	25,923	30,665	23,472	17,427	10,653	108,140
SYSTEMS DEVELOPMENT							
E04894	Drainage Improvement	250	250	250	250	250	1,250
E04895	PBOT Interagency	350	350	350	350	350	1,750
E05219	Permit Reimbursement	100	45	45	45	45	280
E08748	Party Sewers	1,000	1,000	1,000	1,000	1,000	5,000
E10263	Sewer Easements on Existing Sewers	50	50	50	50	50	250
E10491	Swr Ext Septic Sys w/High Failure Risk	1,000	100	100	1,000	1,000	3,200
EP0000	Permits	500	500	500	500	500	2,500
	Subtotal	3,250	2,295	2,295	3,195	3,195	14,230
	Portland Building Contribution			40,000			40,000
	Totals:	135,600	149,580	169,205	153,296	155,632	763,313
	Approved FY18-22 Budget:	130,021	141,435	157,593	144,345	151,176	724,570
	Inflation Adj (2.57%) Approved FY18-22 Budget:	133,363	145,070	161,643	148,055	155,061	743,191
	Difference:	2,238	4,510	7,562	5,241	571	20,122