

City of Penticton: Financial Plan Reporting Structure

General

Utilities

General Government	Transportation Services	Recreation and Culture	Environmental Health Services	Public Health and Safety	Protective Services	Environmental Development Services	Electrical Supply	Sewer System	Water Utility
Mayor and Council	Transit	Parks	Solid Waste Management	Cemetery	RCMP	Tourism	Electrical Utility	Engineering	Engineering
Corporate Administration	Operations	SOEC			Fire Services	Development Services		AWWTP	WTP
Communications	Fleet	Recreation			Building and License	Development Engineering		Sewer Collection	Water Distribution
Facilities	Roads and Maintenance	Library			Bylaw Enforcement	Planning			
Human Resources	Storm Water	Museum			Dog Control	Economic Development			
Finance	Street Lighting					Land Management			
Information Technology	Traffic Control					Engineering			
Revenue & Collections									
Procurement									
Municipal Grants									

Public Works

Engineering

Electric

Development Services

Financial Services

Recreation & Culture



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Environmental Development Services: Engineering



Overview

The Engineering Department consists of the Design group, Water Treatment Plant and Advanced Waste Water Treatment Plant and is responsible for:

- Planning, designing and administering construction on the road and pedestrian network, the water distribution system, the waste water collection system and the drainage system
- Operating, maintaining, planning and administering design and construction projects for the water treatment plant, water reservoirs and water pump stations
- Operating, maintaining, planning and administering design and construction projects for the advanced waste water treatment plant and lift stations
- Keeping record drawings
- Providing comments on development through the Technical Planning Committee
- Providing professional engineering advice to Council and staff



2018 Achievements

Engineering – Design

✓ Creek works:

Naturalization of Penticton Creek Reach 3A Lower and commenced design for Reach 12A
Commenced work on Master Plan for Ellis Creek.

✓ Major Capital projects:

Downtown utility and streetscape upgrades for the 300 Block of Main Street
Utility, Road and crosswalk upgrades
Mountain bike facilities on Campbell Mountain:

✓ Response works:

Replaced failed retaining wall on the Kettle Valley Railway trail
Flood and Freshet Recovery work at Okanagan Lake, Penticton and Ellis Creek.
Emergency response and planning work to address drainage issues for Upper Carmi and Campbell Mountain.



2018 Achievements

Engineering – Water Treatment Plant

- ✓ Completed phase I of the Drought Management Plan
- ✓ Installed upgraded monitoring and control equipment:

Engineering – Advanced Waste Water Treatment Plant

- ✓ Implemented energy management hardware and software changes. Participated in the National Water and Waste Water Benchmarking initiative
- ✓ Lobbied WorkSafe BC for a full regulation review on confined space entry regulations
- ✓ Started an educational campaign on the flushable wipes in sewers issues



Challenges & Opportunities

Engineering – Design

Flood Response –Unplanned and unavoidable consumption of resources

Public Safety – Increasing demands to address road, public safety and security issues.

Geographic Information System (GIS) - Managing the changing workflows and data collection

Water Treatment Plant (WTP)

Outdated Instrumentation – Increasing data and control demands rely on complex electronic systems.

Advanced Waste Water Treatment Plant (AWWTP)

Confined Space Regulations (CSR) – Existing AWWTP plant design does not meet WorkSafeBC CSR

Flushable Wipes – Operation of City sanitary sewer lift stations is being compromised by accumulation of cloth wipes.



Challenges & Opportunities

Technology Improvements:

Geographic Information System – increase productivity through better information management

Mobile Workforce technology & Energy Management - increase productivity through better resource management

Safety, Reliability and Efficiency Improvements:

Improved Raw Water Pump Capacity – Reduce risk and cost

Disinfection system changes at Water Treatment Plant – Reduce safety concerns



2019 Initiatives

Engineering – Design

Ellis Creek Master Plan

Pedestrian Cross Walk Upgrades and Installation

Engineering – Water Treatment Plant:

Phase II Drought Management plan

Chlorine and Sulphur Dioxide Gas Removal from Water Treatment Process

Okanagan Lake Pump Station Electric and Pump Motor Upgrade

Engineering – Advanced Waste Water Treatment Plant:

Asset Management Renewal Plan



Staffing

	2018	2019
Design	7	7
Water Treatment Plant	7	7
Waste Water Treatment Plant	11	11



Highlights

	2019 Budget	% change	Trend
Total Revenue	0	0.00%	→
Operational Expense	210,450	25.22%	↑
Total Internal Allocation In	74,100		↓
Total Internal Allocation Out	<u>-284,550</u>		↑
Net Operating Expense	0		↓
Total Capital	6,611,053		↓
Cost per Capita	0.00		↓
% of Property Tax	0.00%		↓



Expenses

Environmental Development Services Engineering

Expenses	2018 Budget	2018 Forecast	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Goods and Services	48,250	66,961	108,450	606,450	280,450	118,450	118,450
Salaries and Benefits	<u>166,450</u>	<u>101,100</u>	<u>102,000</u>	<u>133,280</u>	<u>144,785</u>	<u>156,521</u>	<u>168,491</u>
Net Operating Expense	214,700	168,061	210,450	739,730	425,235	274,971	286,941
Internal Allocation In	196,469	153,633	74,100	76,702	78,316	79,942	81,581
Internal Allocation Out	<u>-214,700</u>	<u>-168,061</u>	<u>-284,550</u>	<u>-816,432</u>	<u>-503,551</u>	<u>-354,913</u>	<u>-368,523</u>
Total Operating expense	196,469	153,633	0	0	0	0	0



2019 Capital Budget

*Environmental Development Services
Engineering*

Project description	Budget	General	Water	Sewer	Comments
Ridgedale Reservoir Upgrade	75,000		75,000		Design reservoir to address emergency storage for fireflows
North Penticton Interceptor - Fairway Road to Treatment Plant	35,000			35,000	Predesign for increasing sanitary capacity to North end of City
Small Sanitary Sewer Upsizing	40,000			40,000	Design to address system deficiencies as identified in master plan
Overland Drainage Improvements	150,000	150,000			Design work to address run off from Campbell Mtn. and upper Carmi



2019 Capital Budget – Con't *Environmental Development Services Engineering*

Project description	Budget	General	Water	Sewer	
Main Street Upgrades - Industrial Avenue to Warren Avenue	1,791,600	280,000	755,800	755,800	Renewal of water, sewer mains, new storm infrastructure
Main Street Upgrades - Industrial Avenue to Warren Avenue - DCC Portion	98,303	98,303			
Pavement Management: Rehabilitation	520,000	520,000			Eckhardt Ave: Winnipeg St. to Martin St.
Downtown On Street Parking Design	5,000	5,000			Westminster from Martin to Brunswick - 40 spaces
SS Sicamous Area Revitalization	100,000	100,000			Traffic circle, parking, and area upgrades



2019 Capital Budget – Con't

*Environmental Development Services
Engineering*

Project description	Budget	General	Water	Sewer	Comments
Penticton Creek Revitalization	695,000	695,000			Design of future restoration projects, \$469K Grant Funded
South Main Street Sanitary Sewer	1,010,950	160,950	350,000	500,000	Water, sewer, & pavement replacements
100mm Water Main Replacement Program	513,500		388,500	125,000	Windsor Ave: Moosejaw St. to Argyle St.
Aging Water Main Replacement Program	1,301,300		976,300	325,000	Walden Crescent & Barrington Avenue



2019 Capital Budget – Con't

*Environmental Development Services
Engineering*

Project description	Budget	General	Water	Sewer	
Aging Sanitary Sewer Infrastructure Replacement and Upgrades	75,000			75,000	Design for 2020 sanitary upgrades
Irrigation System - Infrastructure Renewals	75,000		75,000		Design of future replacement projects
Asset Management Software & AMIP Update	70,400		<u>37,400</u>	<u>33,000</u>	Share of asset management software implementation
Bike Network Planning & Infrastructure	<u>55,000</u>	<u>55,000</u>			\$35K Bike route confirmation \$20K Bike racks
TOTAL	6,611,053	2,064,253	2,658,000	1,888,800	



Highlights



	2019 Budget	% change	Trend
Sewer Utility Revenue	-7,112,680	19.0%	↑
AWWTP Salaries & Benefits	971,446	-5.4%	↓
AWWTP Goods and Services	1,237,372	-1.2%	→
Allocations In			
Sewer Collection Expense	746,420		↓
Debt Allocation	1,091,587		↓
Overhead Allocation	741,608		↑
Allocations In/Out - Other	365,095		↑
Total Internal Allocation Out	<u>-38,985</u>		↑
Total Expenses	<u>5,114,543</u>		→
Net Operating Surplus	-1,998,137		↑
Sewer Capital	4,577,800		
Debt Financing	-1,000,000		
Transfer from Reserve	<u>-1,579,663</u>		
Balance Sewer Operating Fund	0		

Sewer



Revenues

AWWTP

Revenues	2018 Budget	2018 Forecast	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Sale of service	-5,730,121	-5,760,818	-6,904,622	-7,645,970	-8,432,487	-9,357,421	-10,365,439
Grants	<u>-215,818</u>	-215,818	-208,058	-206,511	-206,511	-206,511	-206,511
Total	-5,945,939	-5,976,636	-7,112,680	-7,852,481	-8,638,998	-9,563,932	-10,571,950



Expenses

AWWTP

Expenses	2018 Budget	2018 Forecast	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
AWWTP - General	1,014,032	1,047,850	1,011,983	967,992	987,280	1,007,061	1,027,346
AWWTP - Liquids	485,468	517,168	411,910	543,423	555,335	447,663	460,423
AWWTP - Reclaimed Water	176,763	115,455	168,846	112,383	116,053	119,860	123,810
AWWTP - Solids	403,646	394,861	385,614	449,046	456,627	394,360	402,247
Sanitary Lift Stations	129,526	122,075	127,041	129,896	132,817	135,807	138,867
Septage Receiving	33,235	24,606	40,927	41,687	42,463	43,258	44,071
AWWTP Training & Conferences	23,498	23,498	23,512	23,982	24,462	24,951	25,450
Asset Management Plan	0	0	0	0	50,000	0	0
Parks	<u>33,900</u>	<u>33,900</u>	<u>38,985</u>	<u>40,178</u>	<u>41,407</u>	<u>42,674</u>	<u>43,980</u>
Total	2,300,066	2,279,413	2,208,818	2,308,587	2,406,445	2,215,633	2,266,194



Capital Overview

Sewer

Project description	Budget
Sewer - Engineering Design	1,888,800
Sewer Collection	1,000,000
→ Advanced Waste Water Treatment Plant	1,684,000
CIS Software Upgrades - Sewer Portion	<u>5,000</u>
Total	4,577,800



Capital

AWWTP

Project description	Budget	Comments
Asset Management Renewal - Lift Stations	30,000	Replace aging electrical and mechanical equipment Address disposal of flushable wipes
Wonderware Efficiencies	35,000	Plant controls and operation software upgrade
CCTV cameras	10,000	North end of AWWTP
Spectrophotometer *	18,000	Critical lab equipment for testing
Fine air socks replacement/bio baffles	35,000	Regular replacement
BIOREM Filter for filter plus install	35,000	New asset to reduce odors at AWWTP
PME expand to older MCC's	65,000	Power management software & hardware
Change management Software	35,000	Cybersecurity & PLC Programming
Install screw Pump #2	120,000	3rd of 3 to be replaced
Replace one cake pump *	145,000	Critical cake pump is inefficient
Server replacement WWTP Industrial servers	100,000	Identified by IT that asset is due for replacement

* Partially preapproved by Council December 5, 2018



Capital – Con't

AWWTP

Project description	Budget	Comments
A/C headwork's control	10,000	Protects critical electrical equipment
7a rotorks and DO probe	40,000	Reduces electrical consumption
Main breaker PDC replacement	60,000	Identified that critical breaker is at end of life
2nd DAF pump (DAG)	55,000	Piloted DAF pump last year with great success, moving forward with 2nd pump
Asset Management Renewal - AWWTP	370,000	Replace civil, mechanical & electrical Equipment
Chemscan	110,000	Increases operational efficiencies
Disk filter cloth replacement	80,000	Replace 10 year old asset at end of life
Wilson LS flow meter and Genset Marina Way flow meter Design	25,000	Installing generator to bring station up to compliance with Bylaw
Cub Cadet	25,000	Replace 10 year old asset at end of life
Dehumidifier for polymer room	6,000	Chemical room enhancement



Capital – Con't

AWWTP

Project description	Budget	Comments
Shop crane	10,000	Replacing manual chain hoist
Bin room modifications	30,000	Concrete work to reinforce damaged bin room
Test Bench	10,000	To aid in repairing electrical equipment
Bioreactor Waste Pump Replacement*	<u>225,000</u>	Replacing due to safety concerns and increased operational efficiencies
Total	1,684,000	

* Partially preapproved by Council December 5, 2018



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Highlights



	2019 Budget	% change	Trend
Water Utility Revenue	-8,812,919	4.2%	↑
WTP Goods and Services	957,556	8.0%	↑
WTP Salaries and Benefits	773,484		→
Allocations In			
Water Distribution Expense	867,700		↓
Debt Allocation	780,918		↓
Overhead Allocation	801,546		↑
Allocations In/Out - Other	258,362		↑
Total Internal Allocation Out	<u>-37,693</u>		→
Total Expenses	<u>4,401,873</u>		↑
Net Operating Surplus	<u>-4,411,047</u>		↑
Water Capital	5,512,200		
Transfer from Reserve	<u>-1,101,153</u>		
Balance Water Operating Fund	0		

Water



Revenues

WTP

Revenues	2018 Budget	2018 Forecast	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Sale of service	-8,038,201	-8,038,201	-8,375,806	-8,700,787	-9,038,378	-9,389,068	-9,753,366
Recoveries	-441,436	-423,491	-437,114	-451,632	-466,776	-482,571	-499,047
Total Operational Revenues	-8,479,637	-8,461,692	-8,812,919	-9,152,419	-9,505,154	-9,871,640	-10,252,413



Expenses

WTP

Expenses	2018 Budget	2018 Forecast	2019 Budget	2020 Budget	2021 Budget	2022 Budget	2023 Budget
Cross Connection	53,935	53,935	56,228	57,353	58,500	59,670	60,863
Pump Stations	278,081	278,360	277,814	280,837	284,079	287,559	291,298
Small Reservoirs	48,949	48,949	48,500	49,470	50,460	51,469	52,498
Warren Ave Well	5,975	5,975	5,350	5,571	5,807	6,060	6,332
Water Conservation	52,287	52,287	46,000	46,920	47,858	48,816	49,792
Water Treatment Plant	1,093,054	1,109,560	1,141,754	1,169,906	1,199,350	1,230,179	1,262,493
Parks - other accounts	36,140	36,140	37,693	39,199	40,765	42,394	44,088
Drought Management	85,575	50,000	100,000	0	0	0	0
Water	<u>12,700</u>	<u>12,700</u>	<u>17,700</u>	<u>18,054</u>	<u>18,415</u>	<u>18,783</u>	<u>19,159</u>
Total Operating Expenses	1,666,696	1,647,906	1,731,040	1,667,310	1,705,235	1,744,930	1,786,523



Capital Overview

Water

Project description	Budget
Water - Engineering Design	2,658,000
Water Distribution	365,000
→ Water Treatment Plant	2,484,200
CIS Software Upgrades - Water Portion	<u>5,000</u>
Total	5,512,200



Capital

WTP

Project description	Budget	Comments
Bulk Liquid Chlorine System*	633,500	Removing processed gasses & moving toward liquid chlorine for safety reasons
Asset Management Equipment Replacement	50,000	Life-cycle replacement
WTP optimization projects	15,000	Purchase of instrumentation for process optimization
PLC Equipment Replacement	80,000	Installation and integration of PLC hardware & Logic
Replace aging electrical equipment Okanagan Lake Pump Stn	1,575,700	Replace aging electrical & pump equipment
Replace (2) process computers/update software	5,000	Annual computer replacement

* Partially preapproved by Council December 5, 2018



Capital – Con't

WTP

Project description	Budget	Comments
WTP Rotork Valve Replacement	60,000	Replacement of original valve actuators
WTP Filter Gallery Valve Replacement	30,000	Replacement of original valves
WTP Booster Station Communication Upgrades	15,000	Upgrade of PLC communication radios
WTP Door Security	<u>20,000</u>	Converting key doors to FOB doors
Total	2,484,200	



Decision Requests

- Approval to complete Phase II of the Drought Management plan at a cost of \$100,000.
- Approval to proceed with planning of a North to South (lake to lake) bike route and installation of bike racks at a cost of \$55,000
- Approval to undertake design and installation of road and parking at SS Sicamous at a cost of \$100,000.



Questions?

