

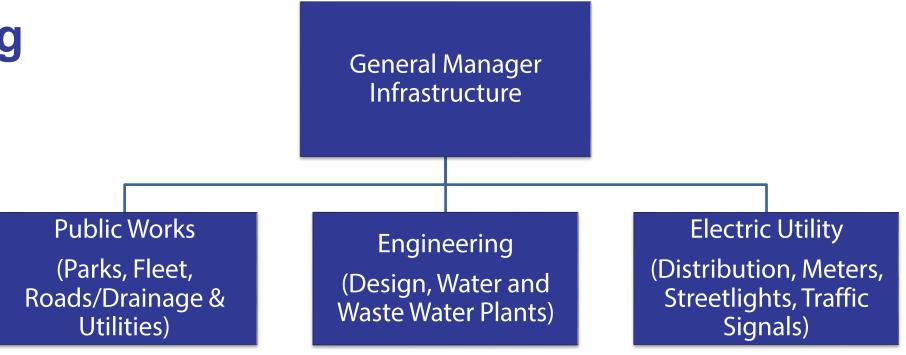
Infrastructure

Overview

- The Infrastructure division is responsible for overseeing many of the City's operations that enable our residents to go about their daily lives.
- Our team is responsible for the planning, design, construction, operation and maintainance of City infrastructure assets. We also collect garbage and recycling and set utility rates.
 - Electric Utility our department is responsible for overseeing operations, maintenance and ongoing improvements of the electrical distribution system. We also manage electrical meters, traffic signals and street lighting.
 - Engineering we are responsible for the planning, design and construction administration of the road and pedestrian network, the
 water treatment plant and distribution system, the wastewater treatment plant and collection system and the drainage system.
 - Public Works we keep our community safe by maintaining a clean, safe drinking water system and reliable sanitary sewer and storm water drainage systems. We maintain our road network, parks and City owned dams and provide irrigation water to the agricultural areas.



Infrastructure



The Infrastructure Division consists of 110 full-time equivalent staff, including one general manager, three managers and nine supervisors.





2021 Achievements

- Adoption of the Integrated Infrastructure Master Plan
- Implementation of a phase of the Lake to Lake Cycling Route
- Source Water Protection Plan
- Waste Water Treatment Plant replacements
- Wilson Street and Marina Way lift station upgrade and generator installation
- Efficiency improvements and succession planning in the electrical department





2021 Achievements continued....

- Waste and recycle collection at parks and beaches
- Sanitary sewer residuals opportunities and design development
- Dam safety compliance Ellis 4 Dam
- Racket courts strategy and utilization review
- Penticton bus stop inspection and prioritized action list











Challenges & Opportunities

Dam Safety Compliance

o Ellis Creek system dams require safety upgrades to ensure they comply with current guidelines.

 Preliminary designs for a second dam upgrade will begin in 2022, with construction to follow in 2024.

Sanitary Sewer Plant Residuals and Organics Waste Management

- City's existing wastewater treatment compost facility no longer meets updated Provincial requirements.
- City is working with Regional District of the Okanagan-Similkameen to implement a joint composting facility.





Infrastructure – Parks

2022 Initiatives

- Skaha Park Splash Pad replacement
- Develop an Urban Forestry Master Plan
- Proposed cleanliness initiative for parks and core City areas







Infrastructure – Public Works

2022 Initiatives

- Partnership with RDOS to address sanitary sewer plant residuals and organics waste management
- Upgrades for dam safety compliance
- Introduction of a fully electric vehicle to Fleet Department
- Proposed installation of a new lighted landmark for the nighttime landscape



Infrastructure - Engineering

2022 Initiatives

- Wastewater Treatment Plant expansion
- Penticton Creek naturalization project
- Completion of Section Two of the Lake-to-Lake Bike Route
- Point Intersection to address traffic congestion
- Water Treatment Plant (WTP) arc flash study









Utilities

The City of Penticton has four Utilities serviced by three different departments:

- Electrical (Electrical Department)
- Water (Engineering Department, Public Works Department)
- Sanitary Sewer (Engineering Department, Public Works Department)
- Storm Sewer (Engineering Department, Public Works Department)



Infrastructure Budget







Infrastructure

	2021 Budget	2021 Forecast	2022 Budget
Expense	221,000	221,700	228,500
Net Cost Allocations	(221,000)	(221,700)	(228,500)
Net Expense	_	_	_



Public Works Budget Parks, Fleet, Roads, Utilities





	2021 Budget	2021 Forecast	2022 Budget
Expense	935,796	935,796	951,463
Net Cost Allocations	(784,608)	(784,608)	<u>(951,463)</u>
Net Expense	151,188	151,188	-



Public Works – Roads & Maintenance

	2021 Budget	2021 Forecast	2022 Budget
Expense	1,880,334	1,982,526	2,218,261
Net Cost Allocations	<u>358,666</u>	334,901	308,023
Net Expense	2,239,000	2,317,427	2,526,284



Public Works – Roads & Maintenance

Roads	100,000	0	0	0	0
	2022	2023	2024	2025	2026



Public Works – Roads & Maintenance

Project Description	2022	2023	2024 – 2026	Comments
Decorative Scroll Installation	100,000	0	0	New lighted landmark





	2021 Budget	2021 Forecast	2022 Budget
Expense	2,371,954	2,445,204	2,680,065
Net Cost Allocations	624,046	<u>591,690</u>	659,946
Net Expense	2,996,000	3,036,894	3,340,011





	2022	2023	2024	2025	2026
Parks	641,600	397,250	399,875	478,500	316,510



Public Works – Parks

Project Description	2022	2023	2024-2026	Comments
Beach Slides	0	0	7,000	
Irrigation Upgrades	42,500	81,250	223,685	Art Gallery area
Kings Park - Entry Improvements	35,000	0	0	Gate access and wayfinding improvements
Lakawanna Park - Splash Pad replacement	0	0	125,000	
Park Misc - CinderBlock Dugout Improv.	0	0	31,500	McLaren & Bambino
Park Misc - McGregor Park Development	0	0	75,700	
Park Misc - Parks Recycling Infrastructure	0	0	60,000	
Park Misc - Playground Equipment	60,000	294,000	423,000	Accumulate funds for 2023 installation project
Riverside park - Site/Entry Improvements	0	0	99,000	
Robinson Park - Pickleball Courts	0	0	150,000	
Skaha Park - Splash Pad replacement	353,000	0	0	Replace aging amenity
SOEC - Landscaping Alberni/Creston parking lot	0	22,000	0	
SS Sicamous Irrigation and Landscaping	100,000	0	0	Address disturbed areas
Sudbury Park - Parking Lot Landscaping	51,100	0	0	Landscape bank between road and parking lot
Total	641,600	397,250	1,194,885	



Public Works – Parks

Project Description	2022	2023	2024-2026	Comments
Safety Village - Park upgrades	0	250,000		
Skaha Park Beach Wall	70,000	700,000		Design for undermined wall
Skaha Park East - Other Parks	0	818,345		
Sportsfield Fencing Improvements	175,000	300,000	600,000	Add fencing for fly-balls.
Tennis Court Upgrades	0	0	835,000	
Three Mile Beach - Upgrade parking, site and entry improv.	0	373,400		
TOTAL	245,000	2,441,745	1,435,000	

^{*}Projects funding source is not yet determined



Public Works – Cemetery

	2021 Budget	2021 Forecast	2022 Budget
Revenue	(378,500)	(378,500)	(378,500)
Expense	296,760	311,460	280,034
Net Cost Allocations	93,740	93,740	<u>96,466</u>
Net Expense/(Revenue)	12,000	26,700	(2,000)



Public Works – Cemetery

	2022	2023	2024	2025	2026
Cemetery	64,000	60,000	60,000	60,000	60,000



Public Works – Cemetery

Project Description	2022	2023	2024-2026	Comments
Cemetery - Lakeview Cemetery	64,000	60,000	180,000	Required building maintenance





	2021 Budget	2021 Forecast	2022 Budget
Revenue	(2,258,100)	(2,258,100)	(2,442,503)
Expense	2,476,731	2,490,581	2,579,925
Net Cost Allocations	<u>(231,631)</u>	(242,217)	(217,422)
Net Revenue	(13,000)	(9,736)	(80,000)





Fleet	1,168,200	1,287,750	1,045,100	2,416,050	1,846,750
	2022	2023	2024	2025	2026



Public Works –Fleet

Project Description	2022	2023	2024-2026	Comments
Fleet Future Capital Purchases	0	0	5,307,900	
Light Duty Vehicles (Pick Ups and Cars)	335,000	564,000	0	2022 - 6 replacements, 2 additional vehicles, 2023 - 12 replacements
Backhoe (Replace Unit 71)	180,000		0	Replacement warranted per policy
Bush Truck (Replace Unit B-201)	80,000	0	0	Replacement warranted per policy
Shop Equipment	57,000	124,500	0	Replacements: hoist, steam cleaner, wheel balancer, sander, compressor
Small Equipment and Attachments	74,000	30,000	0	Replacements: aerator, flail mower, broom attachment, boom flail mower
Digger Derrick Aerial to Replace Unit 50	0	350,000	0	
Chipper (Replace Unit 78)	0	55,000	0	
Tractor (Replace Unit 69)	0	65,000	0	
2-Personal Water Rescue Craft	0	40,000	0	



Public Works -Fleet

Project Description	2022	2023	2024-2026	Comments
Spray Truck (Replace Unit 130)	50,000			Replacement warranted per policy
Public Works Equipment	28,200	44,250	0	Fertilizer spreader, 2 - rototillers, rotovator, snow blower, overseeder
Trailer Replacements	29,000	15,000	0	2022 - 3 replacements, 2023 -2 replacements
Single Dump (Replace Unit 53)	150,000		0	Replacement warranted per policy
SOEC Ice Resurfacer (Replace Unit 335)	185,000		0	Replacement warranted per policy – targeting all electric
TOTAL	1,168,200	1,287,750	5,307,900	



Public Works –Storm Water

	2021 Budget	2021 Forecast	2022 Budget
Revenue	(755,000)	(763,517)	(966,000)
Expense	201,390	224,750	244,550
Net Cost Allocations	274,000	274,000	306,623
Transfers	279,610	264,767	414,827
Net Expense	-	_	-



Public Works –Solid Waste

2022 Budget

	2021 Budget	2021 Forecast	2022 Budget
Revenue	(2,689,100)	(2,711,648)	(2,708,600)
Expense	1,983,825	1,947,492	1,977,050
Net Cost Allocations	<u>53,500</u>	<u>53,500</u>	<u>60,500</u>
Net Revenue	(651,775)	(710,656)	(671,050)



Electric- Street Lighting

	2021 Budget	2021 Forecast	2022 Budget
Expense	<u>311,100</u>	<u>316,000</u>	<u>418,000</u>
Net Expense	311,100	316,000	418,000



Electric-Traffic Control

	2021 Budget	2021 Forecast	2022 Budget
Expense	129,250	<u>144,000</u>	<u>151,000</u>
Net Expense	129,250	144,000	151,000



Electric-Traffic Control

	2022	2023	2024	2025	2026
Traffic Control	178,000	127,000	131,000	137,000	104,000



Electric-Traffic Control

Project Description	2022	2023	2024-2026	Comments
New Traffic Detection Devices	68,000	70,000	189,000	Low resolution image capture
Traffic Signalization - Upgrade Controllers and Loop Detectors	110,000	57,000	183,000	Annual replacement program
Total	178,000	127,000	372,000	



Engineering

Design, Water Treatment & Waste Water Treatment Plants



Engineering - Design

	2021 Budget	2021 Forecast	2022 Budget
Expense	1,306,940	865,980	1,327,800
Net Cost Allocations	(1,156,940)	(1,095,480)	(1,327,800)
Net Expense	150,000	(229,500)	-



Engineering - Design

Engineering	2022	2023	2024	2025	2026
General	8,869,000	2,505,000	6,404,500	2,667,500	6,680,150
Sewer	4,318,000	2,327,000	1,327,000	1,733,000	2,205,000
Water	7,029,000	1,956,500	2,325,500	3,282,500	5,502,200
Total	20,216,000	6,788,500	10,057,000	7,683,000	14,387,350



Project Description	2022	2023	2024 - 2026	Comments
Carmi Drainage	-	-	256,000	
Ellis Creek Reach 7	200,000	35,000	3,806,000	2022 Design – Government St to Dartmouth Rd + 120m
Ellis Creek Reach 8	-	-	3,089,500	
Ellis Creek Reach 9 Design	-	-	200,000	
Huth Ave. Storm Sewer Construction	43,000	-	868,000	2022 Design – address pipe constriction
Oxbow Drainage Improvements	56,000	56,000	56,000	Sediment capture at outfalls for Sudbury Beach and Green Ave
Penticton Creek Enviromental Monitoring	50,000	75,000	250,000	Annual post construction monitoring
Penticton Creek Revitalization Reach 2	450,000	400,000	430,000	2022 design for next reach
Storm Water Management - Liquid Waste Management Plan	-	68,000	219,000	
Warren Avenue West Storm Upgrades	-	-	290,000	
Aging Storm Sewer Infrastructure Replacement and Upgrades	-	-	542,000	
Bike Network Plan	4,700,000	-	-	Construct Section 2: Fairview to South Main St
East Penticton Interceptor - Fairway Ave to Treatment Plant	-	351,000	-	



Project Description	2022	2023	2024 - 2026	Comments
Intersection and Road Marking Improvements	75,000	50,000	177,650	
Lanes - Pavement Reconstruciton	-	-	181,000	
Orchard Avenue Reconstruction	-	-	1,840,000	General/Sewer/Water
Pavement Management: Rehabilitation	545,000	1,145,000	2,729,000	
Point Intersection Kinney & South Main - Re-Align Galt Avenue	2,800,000	-	-	General/Sewer/Water
Reservoir Road Reconstruction	-	-	100,000	
Sidewalks, Curbs and Gutter Projects	200,000	225,000	726,000	
Small Developer Driven Drainage Works	-	-	177,000	
Traffic Calming Program	100,000	100,000	300,000	
Aging Sanitary Sewer Infrastructure Replacements/Upgrades	1,067,000	-	5,230,000	Sewer
Aging Water Main Replacement Program	85,000	-	-	Sewer
East Penticton Interceptor - Fairview Ave to Treatment Plant	50,000	1,836,000	-	Sewer/Water
North Penticton Interceptor - Fairway Road to Treatment Plant	2,941,000	-	-	Sewer



Project Description	2022	2023	2024 - 2026	Comments
SOEC Lift Station Wet Well Expansion	-	841,000	-	
100mm Water Main Replacement Program	508,000	-	1,108,200	Water - in Uplands area
Aging Water Main Replacement Program	1,161,000	968,500	1,223,000	Water - in Uplands area
Downtown Revitalization - Main Street	-	-	450,000	
Industrial Area Fire Flow Upgrades			2,289,000	
Irrigation System - Infrastructure Renewals	638,000	638,000	1,914,000	Water - Accumulate for future construction
Rainfall Monitoring	256,000	-	-	Water - Watershed monitoring for predictive purposes
Riddle Road Improvements - Water Service & Fire Protection	-	-	1,593,000	
Ridgedale Reservoir Upgrade	4,161,000	-		Water - Add storage for balancing, emergency and fire protection
Valleyview Road Improvements	130,000	-	2,083,000	Water - 2022 design to provide fire flow
TOTAL	20,216,000	6,788,500	32,127,350	



Project Description	2022	2023	2024-2026	Comments
Bike Network Plan	0	860,000	0	Section 1 – South Main St
Campbell Drainage	0	0	2,216,000	
Carmi Drainage	0	0	2,191,000	
Ellis Creek Reach 8	0	0	951,500	
Kiwanis Walking Pier	0	0	1,225,000	
Main Street 400 Block Infrastructure	0	0	1,162,000	
Penticton Creek Revitalization Reach 2	0	1,900,000	1,985,000	
Reservoir Road Reconstruction	0	0	2,166,000	
Total	0	2,760,000	11,896,500	

^{*}Projects funding source is not yet determined



Utilities













2022 Budget

	2021 Budget	2021 Forecast	2022 Budget
Revenue	(40,633,193)	(42,573,923)	(43,420,808)
Expense	33,182,349	33,398,062	36,002,252
Net Cost Allocations	1,816,623	1,743,572	1,932,688
Transfers	<u>5,634,221</u>	<u>7,432,289</u>	<u>5,485,868</u>
Net Expense	-	-	-





	2022	2023	2024	2025	2026
Electrical Utility	8,190,169	4,341,523	4,688,280	4,007,866	6,158,511





Project Description	2022	2023	2024-2026
Non-Discretionary	2,970,134	1,818,286	5,757,564
Sustainment	2,511,790	1,366,014	4,403,497
Enhancement	2,199,537	1,112,203	2,381,204
Expansion	325,000	0	2,169,063
Departmental Tools	183,709	45,020	143,328
Total Capital Expense	8,190,170	4,341,523	14,854,656
Recoveries	(1,282,509)	(1,288,708)	(3,904,339)
Net Capital Expense	6,907,661	3,052,815	10,950,317





Non-Discretionary					
Project Description	2022	2023	2024-2026	Comments	
New Services & Service Upgrades	1,600,684	1,645,522	5,218,731	Recover \$1.113M	
New Underground Subdivisions	169,450	172,764	538,833	Recover \$169,450	
Point Intersection - Galt and South Main St	1,200,000			Street lighting and traffic signals	
Total	2,970,134	1,818,286	5,757,564		





Sustainment							
Project Description	2022	2023	2024-2026	Comments			
Huth Refurbishment			655,954				
Waterford Refurbishment		312,120	318,362				
Distribution System Rebuild	696,922	723,421	2,339,719	Replacement of aging insulator, cross arms and poles			
Distribution System Rebuild- UG Residential Subdivision Rebuild	314,868	330,473	1,089,462	New program to replace end of life cables in residential subdivisions, exact location being determined			
City Yards - Building upgrades	1,500,000			75% Electrical, 25% General			
Total	2,511,790	1,366,014	4,403,497				



Enhancement						
Project Description	2022	2023	2024-2026	Comments		
IT Software Upgrades	10,000	260,000	30,000	Upgrade required		
Utility Scale Battery	1,700,000	300,000	600,000	Peak shaving and back-up power		
Reliability Improvements	431,405	492,327	1,560,582	Replacing switches, conductor upgrades, faulted circuit indicator installation		
Supervisory Control and Data Acquisition(SCADA)	58,132	59,876	190,622	Electrical portion of upgrades		
Total	2,199,537	1,112,203	2,381,204			



Expansion						
Project Description	2022	2023	2024-2026	Comments		
Sendero backup OH extension	200,000			Potential to install U/G subject to corridor acquisition		
Fiber System Redundancy	125,000		269,063	Addition of fibre and associated equipment to reinforce the City's fibre system		
Carmi Substation Feeders			1,900,000			
Total	325,000	0	2,169,063			



Departmental Tools						
Project Description	2022	2023	2024-2026	Comments		
PLT & Engineering Tools	43,709	45,020	143,328	Required resources		
Electrical Inventory Storage Racks (Utility Poles & Spools, etc.)	140,000			Address deficient storage requirements		
Total	183,709	45,020	143,328			





	2022 Budget
Total Revenue	(43,420,808)
Operational Expense	36,002,252
Net Allocations	1,932,688
General Capital Dividend	3,225,240
Total Operating Expenses	41,160,180
Net Operating Surplus	(2,260,628)
Net Electric Capital Expense	6,907,660
Transfer From Reserve	<u>(4,647,032)</u>
Electric Fund Balance	-



Water Utility





	2021 Budget	2021 Forecast	2022 Budget
Revenue	(10,344,000)	(10,381,500)	(10,462,600)
Expense	2,909,810	3,083,310	3,091,549
Net Cost Allocations	1,738,881	1,743,165	1,885,491
Transfers	<u>5,695,308</u>	<u>5,555,024</u>	<u>5,485,560</u>
Net Expense	-	-	-





Water Utility	11,448,000	11,216,500	4,060,500	3,962,500	6,822,200
	2022	2023	2024	2025	2026





Project Description	2022	2023	2024-2026
Water - Engineering Design	7,029,000	1,956,500	11,110,200
Water Distribution	592,000	8,540,000	2,170,000
Water Treatment Plant	3,822,000	590,000	1,565,000
CIS Software Upgrades - Water Portion	5,000	130,000	0
Total	11,448,000	11,216,500	14,845,200



Public Works –Water Distribution

Water Distrbution	592,000	8,540,000	1,215,000	415,000	540,000
	2022	2023	2024	2025	2026



Public Works – Water Distribution

Project Description	2022	2023	2024-2026	Comments
Ellis 2 Dam - Consulting and Upgrades	250,000	100,000	750,000	Design process commences 2022
Ellis 4 Dam - Consulting and Upgrades		8,300,000		Ellis 4 Dam option and design work
Ellis Creek Diversion Dam - Consulting and Upgrades			625,000	
Irrigation Meter Program	140,000	140,000	420,000	Ongoing program to install new service box complete with meters on the irrigation system
Misc Dam Projects			375,000	
ROW - Right of Way Aquisitions	202,000			Secure dam access rights
Total	592,000	8,540,000	2,170,000	





	2022	2023	2024	2025	2026
Water Treatment Plant	3,822,000	590,000	520,000	265,000	780,000



Engineering - WTP

Project Description	2022	2023	2024-2026	Comments
Building Code Improvements	150,000	150,000	0	Reconfigure to accommodate filter aid equipment
Equipment Replacement	60,000	60,000	180,000	Replacement of small, aging items
Make Up Air Unit Replacement Program WTP	70,000	140,000	140,000	Four year \$350,000 project
Penticton Ave PRV Upgrade	2,912,000	0	0	New PRV at Duncan Ave Reservoir
Roof Replacement WTP	410,000	0	0	Replace roof – combine with Make-up air replacement.
WTP - DAF Pump Retrofit	0	0	350,000	
WTP - Electrical Main Switch Replacement	0	0	335,000	
WTP Equipment Replacement - PLC's and communications equipment.	100,000	120,000	200,000	Replacement of unsupported electronics
WTP Rotork Valve Replacement	120,000	120,000	360,000	Address 2 filter trains, 1 st in 2022, 2 nd in 2024
Total	3,822,000	590,000	1,565,000	





Fund Summary

	2022 Budget
Total Revenue	(10,462,600)
WTP Expense	1,962,000
Water Distribution Expense	1,129,550
Net Allocations	1,885,491
Transfers	(366,715)
Total Operating Expenses	<u>4,610,326</u>
Net Operating Surplus	(5,852,274)
Water Capital Expense	4,375,000
Transfer (from)/to Reserve	1,477,274
Water Fund Balance	-



Sanitary Sewer Utility



Sanitary Sewer Utility

	2021 Budget	2021 Forecast	2022 Budget
Revenue	(9,130,534)	(9,334,160)	(9,219,918)
Expense	3,316,493	3,344,242	3,576,816
Net Cost Allocations	1,856,094	1,860,378	1,889,820
Transfers	<u>3,957,947</u>	<u>4,129,540</u>	<u>3,753,282</u>
Net Expense	-	-	-





Cower Hitility	2022	2023	2024	2025	2026
Sewer Utility	11,004,000	4,011,000	5,275,000	2,882,000	8,156,000





Project Description	2022	2023	2024-2026
Sewer - Engineering Design	4,318,000	2,327,000	5,265,000
Advanced Waste Water Treatment Plant	6,681,000	1,554,000	11,048,000
CIS Software Upgrades - Sewer Portion	5,000	130,000	
Total	11,004,000	4,011,000	16,313,000





AWWTP	6,681,000	1,554,000	3,948,000	1 149 000	
	2022	2023	2024	2025	2026





Project Description	2022	2023	2024-2026	Comments
1990 HVAC Replacement	20,000	20,000	20,000	Four year project. One unit per year.
Asset Management Renewal Assessment Waste Water Lift Stations	30,000	30,000	260,000	Replacing failing pump at Wilson
AWWTP - Asset Management Renewal	425,000	750,000	2,541,000	Replacing failing items
AWWTP - Bioreactor Gate Replacement	250,000	250,000	0	Replace corroded flow control gate
AWWTP - BIOREM Filter for Filter Plus Install	0	270,000	0	
AWWTP - PLC Upgrades	50,000	50,000	100,000	Replace unsupported aging electronics
AWWTP Expansion and Upgrades	5,846,000	134,000	8,027,000	3 rd Secondary clarifier, cake bin room, NMLR pump
Power Monitoring Efficiencies	25,000	15,000	30,000	Five year project to improve power efficiency at the plant
SCADA Efficiencies	35,000	35,000	70,000	Five year project to improve the benefits of SCADA
Total	6,681,000	1,554,000	11,048,000	





Fund Summary

	2022 Budget
Total Revenue	(9,219,918)
AWWTP Expense	2,718,667
Sewer Collection Expense	858,150
Net Allocations	1,889,820
Transfers	<u>(758,132)</u>
Total Operating Expenses	<u>4,708,505</u>
Net Operating Surplus	(4,511,413)
Sewer Capital Expense	2,658,150
Transfer to Capital Reserve	<u>1,853,263</u>
Sewer Fund Balance	-





Proposed Increase for Council's Consideration

Budget Request	Benefit	Operating
		Budget
		Request
Cleanliness initiative	In 2022, the proposed budget	\$140,000
for parks and core	provides additional funds to the Public Works department to expand	
City areas	our current maintenance levels for	
	Penticton's parks and core areas.	



Questions?



Recommendation

THAT Council approve in principle the Infrastructure business plan initiatives and proposed budget, subject to final review.