DISTRICT OF SQUAMISH
2017-2021 DRAFT FINANCIAL PLAN
CAPITAL PLAN - UTILITIES

Projects carrying forward from 2016

Summary Of Funding Over The Five Year Plan | And Provisions | Key 2017/2018 Funding Sources

Ref	Project	Total Cost	2017 Budget	2018 Budget	2019 Budget	2020 Budget	2021 Budget	Accum Surplus or Provision	Approved Borrowing	New Borrowing	Reserve	Grants & Other (Dev Front End)	DCC	Fund From Revenue	2017 Surplus Draw	2018 Surplus Draw	New Borrowing 2017	New Borrowing 2018	2017 Fund From Operating	2018 Fund From Operating	Source
Solid Waste Utility																					
1	Landfill Vertical Expansion	6,257,048	2,453,250	2,108,130	1,486,689			-	-	6,048,069	-	-	-	-			2,453,250	2,108,130			
Total Solid Waste Utility		**$ 6,257,048**	**$ 2,453,250**	**$ 2,108,130**	**$ 1,486,689**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,048,069**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,453,250**	**$ 2,108,130**	**$ -**	**$ -**	
Water Utility																					
2	Water Meter Installations (CFWD)	1,710,524	1,710,524					-	500,000	646,686	-	563,838	-	-			646,686				Council
3	Annual Watermain Replacement (Annual-CFWD)	6,686,805	1,094,422	1,100,000	1,100,000	1,100,000	1,100,000	-	-	2,000,000	-	729,615	-	2,764,807			-	500,000	364,807	600,000	AMP, WMP
4	DCC W6- Government Road- Watermain - Mamquam to Amblepath Entrance	556,000	556,000					-	-	-	-	316,896	108,888	130,216					130,216		DCC, WMP
5	Annual PRV Replacement (Annual-CFWD)	545,000	175,000				110,000	-	-	-	-	-	-	285,000					175,000	-	AMP, WMP
6	Fleet Replacement- F550 (V9420)	150,000	150,000					-	-	-	76,905	-	-	73,095					73,095		Replacement
7	Well Protection Plan (CFWD)	150,000	136,286					87,165	-	-	-	-	-	49,121	87,165				49,121		Well Protection
	Water Connections	384,550	76,910	76,910	76,910	76,910	76,910	-	-	-	-	384,550	-	-							
8	New Fire Hydrant Installation - Annual	150,000	30,000	30,000	30,000	30,000	30,000	-	-	-	-	-	-	150,000					30,000	30,000	Risk
9	Water Distribution Flow Meters (CFWD)	38,355	25,000					25,000	-	-	-	-	-	-	25,000						WLMP
10	Water Distribution System Turbidity & Chlorine Analyzer Replacement & New Installations	20,000	20,000					-	-	-	-	-	-	20,000					20,000		Replacement
11	Water Quality Sampling Stations	20,000	20,000					-	-	-	-	-	-	20,000					20,000		Regulatory
12	Water Meter Reading Hardware Replacement	16,000	16,000					-	-	-	-	-	-	16,000					16,000		Replacement
13	Temporary Storage Containers (CFWD)	33,000	6,600					-	-	-	-	-	-	6,600					6,600		
14	Surface Water System	100,000		100,000				-	-	-	-	-	-	100,000						100,000	Regulatory
	Fleet Replacement- Super Cab 4X4 (V9423)	37,000			37,000			-	-	-	30,171	-	-	6,829							
	Fleet Replacement - F550, Service Body (V9431)	110,000					110,000	-	-	-	79,754	-	-	30,246							
Total Water Utility		**$ 10,707,234**	**$ 4,016,742**	**$ 1,306,910**	**$ 1,243,910**	**$ 1,206,910**	**$ 1,426,910**	**$ 112,165**	**$ 500,000**	**$ 2,646,686**	**$ 186,830**	**$ 1,994,899**	**$ 108,888**	**$ 3,651,914**	$ 112,165	$ -	$ 646,686	$ 500,000	$ 884,839	$ 730,000	
Sewer Utility																					
15	Annual Sewer Replacement and Rehabilitation (Mains)	6,019,352	1,500,000	1,000,000	1,000,000	1,000,000	1,000,000	500,000	-	-	-	-	-	5,000,000	500,000				1,000,000	1,000,000	AMP
16	Sewer Lift Station Reconstruction	1,050,000	950,000					115,000	-	-	-	-	-	835,000	115,000				835,000		AMP
17	WWTP Upgrade Bar Screens	625,000	600,000					275,000	-	-	-	-	-	325,000	275,000				325,000		LWMP
18	M1 Lift Station Upgrade	280,000	270,000					270,000	-	-	-	-	-	-	270,000						DCC
19	DCC S8 S10 Chiefview and Tantalus Road Sewer Upgrade	1,474,690	200,000	1,250,000				14,500	-	-	-	-	1,435,500	-	2,000	12,500					DCC
20	WWTP Electrical SCADA Upgrades (CFWD)	300,000	200,000					200,000	-	-	-	-	-	-	200,000						Risk
21	DCC S2 WWTP Older Bioreactor Upgrade	1,100,000	165,000	935,000				-	-	-	-	-	696,960	403,040					60,456	342,584	DCC, LWMP
22	WWTP Odour Monitoring System	115,000	115,000					115,000	-	-	-	-	-	-	115,000						LWMP
	Sewer Connections	204,595	40,919	40,919	40,919	40,919	40,919	-	-	-	-	204,595	-	-							
23	Back up RAS SM11 Pump	25,000	25,000					-	-	-	-	-	-	25,000					25,000		Replacement
24	WWTP Exterior Lights	25,000	25,000					-	-	-	-	-	-	25,000					25,000		Safety
25	WWTP Female Locker Room	20,000	20,000					-	-	-	-	-	-	20,000					20,000		
26	Sewer Camera	15,000	15,000					-	-	-	-	-	-	15,000					15,000		Replacement
27	Sewer Main Right of Way	20,000	20,000					20,000	-	-	-	-	-	-	20,000						
28	DCC S3 and S7 Government and Judd Sewer Upgrades	1,291,500		100,000	1,191,500			-	-	-	-	-	430,665	860,835						66,654	DCC
29	DCC S4 and S9 Cheakamus and Tantalus Sewer Upgrade	448,000		50,000	398,000			-	-	-	-	-	227,304	220,696						24,631	DCC
	DCC S2 Anaerobic Digester	2,500,000			375,000	2,125,000		-	-	-	-	-	1,584,000	916,000							
	DCC S2 WWTP Convert New Bioreactor to MBBR	2,000,000				300,000	1,700,000	-	-	-	-	-	1,267,200	732,800							
	WWTP Office Roof and Door Upgrades	80,000				80,000		-	-	-	-	-	-	80,000							
Total Sewer Utility		**$ 17,593,137**	**$ 4,145,919**	**$ 3,375,919**	**$ 3,005,419**	**$ 3,545,919**	**$ 2,740,919**	**$ 1,509,500**	**$ -**	**$ -**	**$ -**	**$ 204,595**	**$ 5,641,629**	**$ 9,458,371**	$ 1,497,000	$ 12,500	$ -	$ -	$ 2,305,456	$ 1,433,869	
TOTAL ALL DISTRICT FUNDS - Utilities		**$ 34,557,419**	**$ 10,615,911**	**$ 6,790,959**	**$ 5,736,018**	**$ 4,752,829**	**$ 4,167,829**	**$ 1,621,665**	**$ 500,000**	**$ 8,694,755**	**$ 186,830**	**$ 2,199,494**	**$ 5,750,517**	**$ 13,110,285**	**$ 1,609,165**	**$ 12,500**	**$ 3,099,936**	**$ 2,608,130**	**$ 3,190,295**	**$ 2,163,869**	

NEWPORT BEACH

		Total Cost	2017 Budget	2018 Budget	2019 Budget	2020 Budget	2021 Budget	Accum Surplus or Provision	Approved Borrowing	New Borrowing	Reserve	Grants & Other	Developer Contribution	Fund From Revenue	2017 Surplus Draw		New Borrowing 2017	New Borrowing 2018	2017 Fund From Operating	From Operating
Water																				
30	SODC- DCC- W19 Peninsula Road B Watermain	277,200	277,200					-	-	-	-	-	274,428	2,772					2,772	
31	SODC- DCC- W18- Peninsula Watermain- Interim Second Connection	192,500	192,500					-	-	-	-	-	190,575	1,925					1,925	
32	SODC- DCC- W16 peninsula Watermain Connection- Galbraith Avenue (CF)	154,000	152,057					-	-	-	-	-	150,536	1,521					1,521	
33	SODC- DCC- W2 Logger's Lane Feedermain Watermain	1,890,000	-	1,890,000				-	-	-	-	-	1,871,100	18,900						18,900
	SODC- DCC- W11b- New Blind Channel PRV	150,000	-	-	150,000	-	-	-	-	-	-	-	148,500	1,500						
	SODC- DCC- W11a- Decommission Logger's Lane/High Shool PRV's	86,000	-	-	86,000	-	-	-	-	-	-	-	85,140	860					-	
	SODC- DCC- W15- New Reservoir	3,069,000			3,069,000			-	-	-	-	-	3,038,310	30,690						
		5,818,700	**621,757**	**1,890,000**	**3,305,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5,758,589**	**58,168**	**-**	**-**	**-**	**-**	**6,218**	**18,900**
Sewer																				
34	SODC DCC S22 Vancouver Street Collector	1,366,231	1,366,231					-	-	-	-	-	1,352,569	13,662					13,662	-
		1,366,231	**1,366,231**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,352,569**	**13,662**	**-**	**-**	**-**	**-**	**13,662**	**-**
		7,184,931	**1,987,988**	**1,890,000**	**3,305,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**7,111,158**	**71,830**	**-**	**-**	**-**	**-**	**19,880**	**18,900**

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing	Service Level Change From Project
1	2017	Solid Water	Landfill Vertical Expansion	Engineering	Design, build and manage vertically expanding the landfill. Consists of engineered vertical walls around two sides of the existing landfill increasing the airspace by approximately $34,000 cubic metres over the next five years and thereby extending the life of the landfill.	The landfill must either be expanded or waste will need to be trucked to other facilities - at an estimated cost of $200 per tonne. District Engineering team capacity is already challenged to manage development and growth. Managing this project in house would require a Project Engineer resources for four years so this contracted partnership is being explored.		
2	2017	Water	Water Meter Installations	Engineering	Council adopted a motion to begin metering Industrial, Commercial and Institutional properties, multi-family residential and District facilities in 2016 and 2017. This project will install roughly 400 meters on those properties throughout Squamish including installation of in-ground meter boxes on many properties. This will enable billing based on water consumption in future years.	Installation of water meters provides many benefits including equitable billing for customers, promoting water conservation and providing information to the District on where water is being consumed.		Operations meter reading staff - $9,600
3	2017	Water	Annual Watermain Replacement	Engineering	70% of the water system is anticipated to reach the end of its life within the next 10 years. This project accounts for annual replacement of water mains and includes design by an engineering consultant and construction by a qualified contractor.	Based on the Public Works Infrastructure Asset Management Plan (endorsed by Council in 2011), the District should be investing approximately 2% annually in capital asset rehabilitation. Currently, over 70% of the water system is comprised of AC (asbestos concrete) pipe at or nearing the end of its life. Replace these mains will reduce frequency of breaks and emergency repairs resulting in lower overall costs. Replacement will also reduce water loss due to leaking pipes.		
4	2017	Water	DCC W6 - Government Rd watermain - Mamquam to Amblepath Entrance	Engineering	This project will replace an old, undersized main to correct an existing deficiency and allow for future growth.	This project will allow future growth and reduce risk related to a current deficiency in fire flow availability. There is a real risk of failure of this line in the near future.		
5	2017	Water	Annual PRV Replacement	Engineering	Replacement of aging Pressure Reducing Valve (PRV) stations. Many of the stations are near the end of their useful life and present confined space entry risk to Operations crews.	Based on the Public Works Infrastructure Asset Management Plan (endorsed by Council in 2011), the District should be investing approximately 2% annually in capital asset rehabilitation. Failure to replace these stations will result in a higher frequency emergency repairs, and a less efficient system overall.		

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing	Service Level Change From Project
6	2017	Water	Fleet Replacement - F550 (V9420)	Operations - Water	Replacement of existing fleet vehicle and adding snow and ice control equipment to make vehicle more versitile.	ncluded in Fleet Replacement Fund Bylaw		
7	2017	Water	Well Protection Implementation	Engineering	The Well Protection Plan will provide several recommendations for protecting our water source including installation of gates, fencing around the wellfield, signage, secondary containment of diesel tank and installing a monitoring well to initiate long term monitoring of aquifer levels.	Implementing the recommendations in the well protection plan will provide the regulated level of protection for our water source.		
8	2017	Water	New Fire Hydrant Installation	Engineering	There are currently deficiencies in some neighbourhoods on fire hydrant spacing. this project will install new fire hydrants over the next 5 years to correct existing deficiencies.	Improved hydrant coverage will reduce risk for existing residents that are outside recommended hydrant spacing.		
9	2017	Water	Water Distribution System Flow Meters	Engineering	This project comes from recommendations in the Water Loss Management Plan. The objective is to install a suite of flow meters throughout the water distribution system in order to gain a better understanding of where water goes within the distribution system to identify areas with high water loss.	Allows for identification of areas with high water loss in order to identify areas for repairing leaking pipes. This will reduce the overall strain on the water system, delaying the need to invest in costly capacity upgrades.		
10	2017	Water	Water Distribution System Turbidity and Chlorine Analyzer Replacement and New Installations	Operations - Water	Replacement of existing online turbididty and chlorine analyzers as well as an additional low range turbidity analyzer for Power House Springs as one currently is not installed.	Existing analyzers are at end of life.		
11	2017	Water	Water Quality Sampling Stations	Operations - Water	Installation of new water quality sample stations in the distribution system and at the well field.	As per request from Vancouver Coastal Health annual drinking water inspection report.		
12	2017	Water	Water Meter Reading Hardware Replacement	Operations - Water	Replacement of existing handheld radio frequency water meter reading hardware.	Water meter reading hardware is at end of life and is no longer supported by supplier.		

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing	Service Level Change From Project
13	2017	Water	Temporary storage containers - Utilities	Engineering	More and improved storage is required in the Utilities area. Existing storage is dilapidated and at the end of it's useful life. This would be a three year phased program and we would be eliminating the power connections to the old building and using solar powered lights.	Having materials dry and secured. Existing structures are failing and leaking		Power savings of $2,500
14	2018	Water	Surface Water System Isolation	Engineering	Vancouver Coastal Health has requested that the District improve the isolation between the Mashiter and Stawamus surface water sources by providing a 'double block and bleed' valving arrangement to prevent potential contamination of the District's water system. This project will retrofit two valve chambers at Mashiter and Stawamus intakes by adding new valves and programming to isolate the surface water intake piping from the District's water distribution network.	Vancouver Coastal Health provides the District with regulatory approvals to operate a public drinking water system and has requested that these upgrades take place as part of a continual improvement of the District's water system.		
15	2017	Sewer	Annual Sewer Replacement and Rehabilitation	Engineering	70% of the sanitary sewer system is comprised of asbestos-cement pipe which, according to the Asset Management Plan, has a remaining service life of 9-12 years. Much of the system will reach the end of its service life over a 10 year window between 2017-27. The asset management plan and long term financial plan recommend annual funding be provided for a) sewer replacement/rehabilitation or b) to contribute to sewer reserves so that funding is available when the majority of the system reaches the end of its service life over a short time period.	The District's sewer system has significant stormwater inflow and infiltration (I&I) which require that the mains, pump stations and treatment plants be over-sized to accommodate the peak wet weather flows. It also requires that the pump stations and the wastewater treatment plant use more energy since they are required to pump and treat stormwater flows in addition to sewage. I&I can be significantly reduced by replacing/rehabilitating the sewer system where leaks and cross connections are present. In addition, the cost of replacing sewer mains proactively, as opposed to reactively has been proven to be a much more cost effective approach to sewer infrastructure management.		
16	2017	Sewer	Sewer Lift Station Reconstruction	Engineering	Replacement of sewer lift stations in 2017.	Based on the Public Works Infrastructure Asset Management Plan (endorsed by Council in 2011), the District should be investing approximately 2% annually in capital asset rehabilitation. The lift station replacement program began in 2011 with 2 stations per year and is nearly complete for the immediate future (subject to any outcomes of the ongoing Sewer Master Plan).		
17	2017	Sewer	Wastewater Treatment Plant Upgrade Bar Screens	Engineering	The current bar screens are beginning to fail and require replacement prior to upgrading the plant in 2018. This project has been identified as a requirement in the Liquid Waste Management Plan.	Finer bar screens will reduce maintenance costs due to reduced failure. Finer screens will also cut the amount of debris getting through the headworks and will cut down on wear experienced in other areas of the wastewater treatment plan.		

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing	Service Level Change From Project
18	2017	Sewer	M1 Lift Station Upgrade	Engineering	The M1 Lift Station pumps all sewage from Brackendale to a gravity sewer which conveys the flows to the wastewater treatment plant. The pumps in M1 Lift Station are approximately 28 years old and require replacement . In conjunction with the pump replacement, an upgrade to the electrical service is to be completed.	The pumps in the M1 Lift Station are nearing the end of their service life leading to a higher probability of failure or malfunction. Pump failures can lead to sanitary sewer overflows which may cause environmental and/or property damage.		
19	2017	Sewer	DCC Project - S8 & S-10 - Chiefview and Tantalus Rd sewer upgrade	Engineering	Sewer upgrade to correct an existing bottleneck in the sewer along Tantalus Rd and allow further growth at the north end of Tantalus Rd and eventually DL 510/11.	Required to allow for planned growth at the north end of Tantalus Rd.		
20	2017	Sewer	Wastewater Treatment Plan Electrical/SCADA Upgrades	Engineering	The existing electrical system at the Wastewater Treatment Plant has exceeded its service life and the technology has become obsolete. It is also not capable of supporting planned expansions at the treatment plant in coming years. In the event of a failure, replacement parts are not available which poses a serious risk to plant operations. In addition, the SCADA system is not compatible with the remainder of the SCADA system for other District infrastructure. This project will integrate the WWTP SCADA system with the District SCADA system.	A new electrical/SCADA system will reduce risk of potential environmental damage resulting from loss of plant control in the event of electrical system failure. The new system will also enable future expansion of the plant.		
21	2017	Sewer	DCC - S2 - Wastewater Treatment Plant Older Bioreactor Upgrade	Engineering	Per the Liquid Waste Management Plan, this upgrade is required to provide the required level of redundancy at the Wastewater Treatment Plant. The upgrade will significantly increase the capacity of the bioreactor allowing for further growth and achieving Provincially mandated levels of redundancy.	This project will allow continued compliance with the Liquid Waste Management Plan which is a binding agreement with the Ministry of Environment.		
22	2017	Sewer	Waste Water Treatment Plant (WWTP) Odour Monitoring System	Operations - Sewer	The LIquid Waste Managment Plan (LWMP) has recommended an odour monitoring system to determine the extent of the odour problem and the soure/type of odours. Odours can come from many differnt sources and to reduce or eliminate odours testing must be done to determine what they are when they are and what they come from. This program will have 3 permanent sampling monitors on the North, South and East sides of the plant to monitor the air for odours 24 hours pe r day. Once this data is collected a new odour handling system can be considered.	Identify odours so an odour control system can be considered for the WWTP.		

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing	Service Level Change From Project
23	2017	Sewer	Back-up RAS / SM11 Pump	Operations - Sewer	Back-up RAS / SM11 pump required. Normal delivery time 4+ months.	Pump required to provide operational redundancy.		
24	2017	Sewer	WWTP exterior lighting upgrade	Facilities	Exterior wall packs around the buildings are original and inefficient technology. In addition the 3 double car park area lights are also original and use inefficient technology. This project proposes to replace the lights with more efficient lighting such as LED with solar where possible.	To ensure the safety of the staff and visitors by providing appropriate light. To reduce energy consumption by introducing energy efficient lighting.		
25	2017	Sewer	WWTP Female locker room	Facilities	There are no private facilities at the WWTP for the ladies to use for a shower or changing. Currently there is one room with a lockers and shower that is shared by all staff. This project proposes to create a shower and locker area in the storage room.	This will provide a private shower/lockers area for the ladies to use.		
26	2017	Sewer	Sewer Camera	Operations - Sewer	Replacement of existing sewer camera.	Allows crews to identify location of blockages and determine best method for repairs. Reduce risk associated with sewer back-ups and flooding.		
27	2017	Sewer	Sewer Main Right of Way		Per Council direction.			
28	2018	Sewer	DCC - S3 and S7 - Government and Judd Sewer Upgrades	Engineering	These sewers are undercapacity to convey current flows and upgrade is required to accommodate further growth as identified in the DCC bylaw.	Completing these projects reduces risk of overflow and private property damage while also accommodating the potential for future growth.		
29	2018	Sewer	DCC S4 and S9 - Cheakamus and Tantalus Sewer Upgrade	Engineering	These sewers are presently at capacity and require upgrade to accommodate further growth as identified in the DCC bylaw.	Upgrading these sewers will reduce the likelihood of overflows and private flooding and also allow further growth within their catchments.		
30	2017	Water	SODC DCC - W19 Peninsula Road B Watermain	Engineering	This DCC project is a new watermain on 'Road B' of the oceanfront lands connecting the downtown water system with the proposed on-site water system to service the peninsula. This project is required to enable development of the peninsula.	In DCC Bylaw and required to develop SODC lands		
31	2017	Water	SODC - DCC - W18 - Peninsula Watermain - Interim Second Connection	Engineering	This project entails construction of a second watermain connection to the oceanfront peninsula to provide water capacity and redundancy to support proposed growth. The need for the project has been identified by water servicing analysis and is included in the DCC bylaw.	Required to enable development on the oceanfront peninsula.		

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing	Service Level Change From Project
32	2017	Water	SODC - DCC - W16 - Peninsula Watermain Connection - Galbraith Avenue	Engineering	Required to service development at SODC.	Required to service development at SODC.		
33	2018	Water	SODC - DCC W2 - Logger's Lane Feedermain Watermain	Engineering	Improve fire flow and north-south water transmission capacity to enable future growth at the SODC.	Allows future growth at SODC.		
34	2017	Sewer	SODC DCC S22 Vancouver Street Collector	Engineering	This DCC project is a new gravity sewer running from the Galbraith Avenue on the oceanfront peninsula to Main St & 3rd Avenue to service new development on the oceanfront lands and also allow for decommissioning of the sewage lift station on Vancouver St between 2nd Ave. and 3rd Ave. This project is required to enable development of the peninsula.	In DCC Bylaw and required for SODC lands development to proceed		

DISTRICT OF SQUAMISH
2017 - 2021 DRAFT FINANCIAL PLAN
ENVIRONMENTAL HEALTH: WATER FUND

	2016 Budget	2017	2018	2019	2020	2021
Operating Revenues						
Frontage Tax	$ (230,585)	$ (230,585)	$ (235,197)	$ (239,901)	$ (244,699)	$ (249,593)
Sale of Services	(3,612,854)	(3,820,136)	(3,896,539)	(3,974,469)	(4,053,959)	(4,135,038)
Investment Revenue	(36,390)	(78,281)	(78,443)	(98,282)	(119,918)	(95,036)
	(3,879,829)	(4,129,002)	(4,210,179)	(4,312,652)	(4,418,575)	(4,479,667)
Operating Expenses						
Administration	1,220,798	1,116,949	1,137,233	1,209,921	1,233,063	1,203,367
Treatment	42,612	48,868	49,845	50,842	51,859	52,896
Supply	209,252	312,683	216,937	221,275	225,701	230,215
Distribution	634,541	670,486	683,896	697,574	711,525	725,756
Pumping & Power	145,514	170,113	173,515	176,986	180,525	184,136
	2,252,717	2,319,099	2,261,426	2,356,598	2,402,673	2,396,370
Fiscal Services						
Other Fiscal Services	39,979	48,596	43,645	33,130	33,130	33,130
Debt interest	244,000	256,629	293,337	309,343	314,061	318,780
Amortization	789,790	789,790	882,095	904,393	929,517	959,690
	1,073,769	1,095,015	1,219,076	1,246,866	1,276,708	1,311,600
Total Operating Expenses	3,326,486	3,414,114	3,480,502	3,603,464	3,679,382	3,707,970
Net Operating (Surplus) Deficit	**(553,343)**	**(714,888)**	**(729,676)**	**(709,188)**	**(739,194)**	**(771,697)**
Adjustments to Balanced Budget						
Remove Amortization	(789,790)	(789,790)	(882,095)	(904,393)	(929,517)	(959,690)
Principal Reductions On Debt	323,251	386,921	446,912	485,496	525,873	484,094
Contribution to Other Funds						
Transfer to Fund Capital*	1,259,548	1,003,222	748,900	669,879	630,000	770,246
Contribution to/from Surplus and Reserves						
Transfer to/(from) Capital Reserve**	14,459	226,699	415,959	458,207	512,838	477,047
Transfer to/(from) Accumulated Surplus	(254,125)	(112,165)	-	-	-	-
(Surplus) / Deficit	$ -	$ -	$ -	$ -	$ -	$ -
Transfer to Fund Capital						
Utility Fee and Reserve Use		*891,057*	*748,900*	*669,879*	*630,000*	*770,246*
Accumulated Surplus Flow Through		*112,165*				
		1,003,222	*748,900*	*669,879*	*630,000*	*770,246*
Capital Reserve Transfer						
Capital Reserve & Replacement		*213,437*	*402,697*	*444,945*	*499,576*	*463,785*
Equipment Reserve		*13,262*	*13,262*	*13,262*	*13,262*	*13,262*
		226,699	*415,959*	*458,207*	*512,838*	*477,047*

DISTRICT OF SQUAMISH
2017 - 2021 DRAFT FINANCIAL PLAN
ENVIRONMENTAL HEALTH: SEWER FUND

	2016 Budget	2017	2018	2019	2020	2021
Operating Revenues						
Frontage Tax	$ (277,640)	$ (277,640)	$ (283,193)	$ (288,857)	$ (294,634)	$ (300,526)
Sale of Services	(5,045,628)	(5,209,266)	(5,313,451)	(5,419,720)	(5,528,115)	(5,638,677)
Other Revenue	-	-	-	-	-	-
Investment Revenue	(161,429)	(180,052)	(115,109)	(128,793)	(137,183)	(152,127)
	(5,484,697)	(5,666,958)	(5,711,753)	(5,837,370)	(5,959,931)	(6,091,331)
Operating Expenses						
Administration	1,106,819	1,078,495	1,062,714	1,093,909	1,105,527	1,124,278
Collection	406,244	459,223	468,407	477,776	487,331	497,078
Treatment and Disposal	1,251,550	1,362,458	1,291,791	1,317,630	1,343,986	1,370,869
	2,764,613	2,900,176	2,822,912	2,889,314	2,936,844	2,992,224
Fiscal Services						
Other Fiscal Services	51,774	52,631	50,000	50,000	50,000	50,000
Debt interest	246,648	205,070	166,395	166,395	160,443	160,443
Amortization	794,014	794,014	882,635	960,199	1,023,962	1,048,962
	1,092,436	1,051,715	1,099,030	1,176,594	1,234,405	1,259,405
Net Operating (Surplus) Deficit	**(1,627,648)**	**(1,715,066)**	**(1,789,811)**	**(1,771,462)**	**(1,788,683)**	**(1,839,702)**
Adjustments to Balanced Budget						
Remove Amortization	(794,014)	(794,014)	(882,635)	(960,199)	(1,023,962)	(1,048,962)
Principal Reductions On Debt	403,277	424,100	307,530	320,996	325,291	340,007
Contribution to/from Other Funds						
Transfer to Fund Capital*	2,440,442	3,816,118	1,433,869	2,127,646	1,968,520	1,622,880
Contribution to/from Surplus and Reserves						
Transfer to/(from) Capital Reserve**	209,458	(188,138)	931,046	283,020	518,834	925,776
Transfer to/(from) Accumulated Surplus	(631,515)	(1,543,000)	-	-	-	-
(Surplus) / Deficit	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
***Transfer to Fund Capital**						
Utility Fee and Reserve Use		*2,339,118*	*1,433,869*	*2,127,646*	*1,968,520*	*1,622,880*
Accumulated Surplus Flow Through		*1,477,000*				
	-	*3,816,118*	*1,433,869*	*2,127,646*	*1,968,520*	*1,622,880*
***Capital Reserve Transfer**						
Capital Reserve & Replacement	*188,518*	*(222,974)*	*896,210*	*248,184*	*483,998*	*890,940*
Equipment Reserve	*20,940*	*34,836*	*34,836*	*34,836*	*34,836*	*34,836*
	209,458	*(188,138)*	*931,046*	*283,020*	*518,834*	*925,776*

DISTRICT OF SQUAMISH
2017-2021 DRAFT FINANCIAL PLAN
ENVIRONMENTAL HEALTH: SOLID WASTE FUND

	2016 Budget	2017	2018	2019	2020	2021
Operating Revenues						
Sale of services						
Waste Collections	$ (1,363,595)	$ (1,591,196)	$ (1,646,138)	$ (1,702,271)	$ (1,759,889)	$ (1,824,218)
Landfill Operations	(1,683,000)	(2,245,230)	(2,335,453)	(2,417,536)	(2,501,434)	(2,586,958)
Other Revenue						
Investment Revenue	(1,526)	(4,439)	(6,292)	(16,535)	(34,250)	(57,555)
	(3,048,121)	(3,840,865)	(3,987,883)	(4,136,342)	(4,295,573)	(4,468,731)
Operating Expenses						
Administration	427,890	289,437	287,066	280,323	298,169	291,648
Waste Collections	1,163,260	1,272,053	1,297,494	1,323,444	1,349,913	1,376,911
Landfill Operations	1,359,120	1,786,694	1,822,428	1,858,876	1,896,054	1,933,975
	2,950,270	3,348,184	3,406,988	3,462,643	3,544,136	3,602,534
Fiscal Services						
Other Fiscal Services	25,000	25,000	64,890	59,279	49,174	25,000
Debt interest	17,098	16,709	76,545	127,963	164,223	164,223
	42,098	41,709	141,435	187,241	213,397	189,223
Total Operating Expenses	2,992,368	3,389,894	3,548,423	3,649,884	3,757,533	3,791,757
Net Operating (Surplus) Deficit	**(55,753)**	**(450,971)**	**(439,460)**	**(486,458)**	**(538,040)**	**(676,974)**
Adjustments to Balanced Budget						
Principal Reductions On Debt	45,664	48,577	267,908	465,034	614,543	637,848
Contribution to/from Surplus and Reserves						
Contribution to Closure	50,000	200,000	200,000	200,000	200,000	200,000
Draw from Accumulated Surplus	(45,000)	-	-	-	-	-
Contribution to Reserves	5,089	202,394	(28,448)	(178,576)	(276,503)	(160,874)
(Surplus) / Deficit	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

DISTRICT OF SQUAMISH
2017 - 2021 DRAFT FINANCIAL PLAN
UTILITY FUNDS RECONCILIATION
2016 TO 2017 DRAFT

	Water		Sewer		Solid Waste	
	Dollar Amount	Impact On Fees	Dollar Amount	Impact On Fees	Dollar Amount	Impact On Fees
RECONCILATION OF 2016 BUDGET TO 2017						
2016 Utility Capital Reserve (Contributions) / Draws	**$ (8,925)**		**$ (188,518)**		**$ (5,089)**	
2017 Changes in Existing Service Levels						
Net Labour Change (Schedule 1)	(27,159)	-0.8%	(25,255)	-0.5%	-	0.0%
Utility Fee Increases	(207,282)	-5.8%	(163,638)	-3.3%	(789,831)	-57.9%
Contract Changes (Schedule 2)	-	0.0%	-	0.0%	(2,736)	-0.2%
Other Existing Service Level Adjustments (Schedule 3)	(24,550)	-0.7%	93,118	1.9%	352,419	25.8%
2016 Non-Recurring Items Removed	(24,990)	-0.7%	(70,000)	-1.4%	(68,900)	-5.1%
Change in Allocations From Other Funds	(21,395)	-0.6%	(20,932)	-0.4%	(45,665)	-3.3%
Change in Debt Service	43,026	1.2%	(38,520)	-0.8%	(389)	0.0%
Change in Provision Contributions	-	0.0%	-	0.0%	-	0.0%
Change in Other Reserve Contributions	7,728	0.2%	13,896	0.3%	-	0.0%
Change in Contribution to Capital	(126,366)	-3.5%	476,171	9.5%	-	0.0%
Total Adjustments To Reserve Due To Base Changes	**(380,988)**	**-10.7%**	**264,840**	**5.3%**	**(555,102)**	**-40.7%**
2017 New Initatives						
2017 Service Level Changes (Schedule 4)	61,476	1.7%	56,651	1.1%	337,796	24.8%
2017 Projects Funded From Fees (Schedule 5)	115,000	3.2%	90,000	1.8%	20,000	1.5%
Total Adjustments To Reserve Due To New Iniatives	**176,476**	**4.9%**	**146,651**	**2.9%**	**357,796**	**26.2%**
2017 Utility Capital Reserve (Contributions)/Draws	**$ (213,437)**	**-5.7%**	**$ 222,973**	**8.2%**	**$ (202,395)**	**-14.5%**
% Change is based on 2016 Utility Fees General	*$ 3,574,854*		*$ 5,032,028*		*$ 1,363,595*	

DISTRICT OF SQUAMISH
2017 - 2021 DRAFT FINANCIAL PLAN
UTILITY FUNDS RECONCILIATION
2016 TO 2017 DRAFT

Schedule 1

CHANGE IN LABOUR TO 2017 EXISTING SERVICE LEVEL	Water		Sewer		Water & Sewer	
Contracted Inflation & Step Changes	$ 20,127	0.6%	$ 15,022	0.3%	$ 35,149	0.4%
New Positions Added in 2016		0.0%		0.0%	-	0.0%
Benefit Changes	(90,014)	-2.5%	(65,712)	-1.3%	(155,726)	-1.8%
Transfers to Other Funds	23,514	0.7%	32,536	0.6%	56,050	0.7%
2016 New Positions Annualized	-	0.0%	-	0.0%	-	0.0%
Recoveries (from operating, capital and external)	6,125	0.2%	(17,137)	-0.3%	(11,012)	-0.1%
Casual, Call Out, Sick and Other Premiums	19,427	0.5%	14,881	0.3%	34,308	0.4%
Position & Rate Changes	(6,338)	-0.2%	(4,845)	-0.1%	(11,183)	-0.1%
Total	**$ (27,159)**	-0.8%	**$ (25,255)**	-0.5%	**$ (52,414)**	-0.6%

Schedule 2

EXISTING SERVICE LEVEL CONTRACT CHANGES	Water		Sewer		Solid Waste	
Solid Waste Collections Contract		0.0%		0.0%	$ (2,368)	-0.2%
Landfill Contract Adjustments		0.0%		0.0%	(368)	0.0%
	$ -	0.0%	**$ -**	0.0%	**$ (2,736)**	-0.2%

Schedule 3

OTHER EXISTING SERVICE LEVEL CHANGES	Water		Sewer		Solid Waste	
Landfill Post Closure Costs	-	0.0%	-	0.0%	150,000	11.0%
Licenses	9,500	0.3%	-	0.0%	-	0.0%
Diversion	-	0.0%	-	0.0%	175,407	12.9%
Engineering Studies Transferred to General Fund	(60,000)	-1.7%	-	0.0%	-	0.0%
Other Landfill Maintenance and Administration	-	0.0%	-	0.0%	27,000	2.0%
Biosolids Removal	-	0.0%	56,600	1.1%	-	0.0%
Utilities	25,000	0.7%	34,272	0.7%	-	0.0%
Insurance	950	0.0%	2,246	0.0%	12	0.0%
	$ (24,550)	-0.7%	**$ 93,118**	1.9%	**$ 352,419**	25.8%

Schedule 4

Ref	SERVICE LEVEL CHANGES			2017 FTE
	Water			
1	Cross Connection Control Program	42,651	1.2%	0.50
2	Water Pump Station Maintenance - Growth	18,825	0.5%	0.25
		$ 61,476	**1.7%**	**0.75**
	Sewer			
3	Sewer Lift Station Operations & Maint. Materials - Growth	6,000	0.1%	-
4	Mamquam Operations - UV System Maint.	53,151	1.1%	0.50
C14	Temporary storage containers (capital - utility costs)	(2,500)	0.0%	-
		$ 56,651	**1.1%**	**0.50**
	Solid Waste			
5	Waste Audits	(10,000)	-0.7%	-
6	Community Projects	6,100	0.4%	-
7	Summer Weekly Organics Collection	111,161	8.2%	-
8	Demolition Sorting Contract Services	230,535	16.9%	-
		$ 337,796	**24.8%**	-

Schedule 4b

Ref	FUTURE YEAR SERVICE LEVEL CHANGES - UTILITIES	2018	2018 FTE	2019	2019 FTE	2020	2020 FTE	2021	2021 FTE
	Water								
C2	Water Meter Installations (from cap project)	9,600	0.14						
		$ 9,600	**0.14**	**$ -**	**-**	**$ -**	**-**	**$ -**	**-**
	Solid Waste								
5 7	Waste Audits	12,000	-	(12,240)	-	12,000	-	(12,240)	-
		$ 12,000	**-**	**$ (12,240)**	**-**	**$ 12,000**	**-**	**$ (12,240)**	**-**

No.	Year	Fund	Presentation Name	Department	Description For Presentation	Service Change Justification	New Staffing
1	2017	Water	Cross Connection Control Program	Operations - Water	Transitioning from special project to implement to ongoing operational work.23Oct16 TB: Added labour component - Utility Operator II which was originally included on Operations - Sewer ND form (Justification: 'change to bring CCC program maintenance in-house)	Requirement under Drinking Water Permit	Utility Operator II 0.5 FTE
2	2017	Water	Water Pump Station Maintenance - Growth	Operations - Water	Will acquire a new water pump station as part of the Skyridge development, Kintyre PRV and Maples.23Oct16 TB: Per Bob, "labour should or could be seasonal. Realistically this work will be done by FT operators."	The pump house is a very complex system (normally this would have a lower maintenance reservoir) that will require a lot of maintenance. The other two items are based on our benchmarking costs.	Utility Operator II 0.25 FTE
3	2017	Sewer	Sewer LIft Station Operations and Maintenance Materials - Growth	Operations - Sewer	Additional funds required for new pumps and odour control maintenance at C11 & M13 due to growth.	Lift stations C11 and M13 had an additional pump installed in each station to handle the added flows. The $6,000 request is based on existing annual costs for the other pumps in these stations. C11 will also have a carbon scrubber for odour control that requires media changes regularly.	-
4	2017	Sewer	Mamquam Operations - UV System Maintenance	Operations - Sewer	Equipment and materials for new UV system maintenance	These costs are from the Design Engineer for annual O&M.	Labourer 0.5 FTE
5	2017	Solid Waste	Waste Audits	Engineering	Reduce waste audits at landfill from annual to bi-annual and increase audit cost from $10k to $12k	Only need bi-annual data and can reduce costs.	-
6	2017	Solid Waste	Community Projects	Engineering	Increase community projects budget by 25% to enhance engagement and educational materials for schools to achieve zero waste targets.	A relatively small investment will help to reduce waste into the landfill, extending its life	-
7	2017	Solid Waste	Summer Weekly Organics collection	Engineering	Add weekly organics for 10 weeks over the summer to increase organic collection rate and decreasing odours, maggots, and bear attractants.	Council Request in 2016. Covered by proposed tip fee increases in 2017 budget.	-
8	2017	Solid Waste	Demolition Sorting Contract Services	Engineering	Create program to sort demolition debris to reduce amount of recyclables and wood ending up in the landfill, thus preserving airspace.	Preserve airspace, reduce GHG. Revenue neutral paid for by increased tip fee for unsorted construction debris.	-

Schedule 5

Ref	2017 SPECIAL PROJECTS	Project Total	Impact on Fees	Funding Source: User Fees	Accumulated Surplus	Reserves	Provisions	CWF	Other Grants & Recoveries	2017 FTE
	Water									
1	Powerhouse Springs - Well 3 Replacement	100,000	2.8%	100,000						-
2	Water Bylaw Rewrite	15,000	0.4%	15,000						-
		$ 115,000	3.2%	**$ 115,000**	**$ -**	-	-	-	-	-
	Sewer									
3	WWTP Condition Assessment	40,000	0.8%	40,000						-
4	WWTP Building Envelope Inspection & Repairs	96,000	1.0%	50,000	46,000					-
		$ 136,000	1.8%	**$ 90,000**	**$ 46,000**	-	-	-	-	-
	Solid Waste									
5	Multi-Family Organic Collection Roll-Out	20,000	1.5%	20,000						-
		$ 20,000	1.5%	**$ 20,000**	**$ -**	-	-	-	-	-

Schedule 5b

Ref	FUTURE YEAR SPECIAL PROJECTS - UTILITIES - Funded By Fees	2018	2018 FTE	2019	2019 FTE	2020	2020 FTE	2021	2021 FTE
	Water								
	Plateau/Thunderbird Reservoir Condition Assessment			50,000		50,000			
	Sewer								
	Source Control Effectiveness Study			10,000					
		$ -	-	$ 60,000	-	$ 50,000	-	$ -	-

No.	Year	Fund	Presentation Name	Department	Project Description	Project Justification Benefits	Additional Project Staffing
1	2017	Water	Powerhouse Springs - Well 3 Replacement	Engineering	Well 3 at Powerhouse Springs has been experiencing operational issues since its initial construction. The capacity of the well has been continually declining despite several well re-development efforts. While re-development offers short-term improvements in the well's capacity, the capacity declines quickly back to an unacceptable level. This project will re-drill Well 3 to a shallower depth that will experience less operational and maintenance issues and improves the District's water supply capacity and reliability. It is intended to re-use existing mechanical and electrical equipment to the greatest degree possible to reduce capital costs.	Re-developing Well 3 will improve the capacity and reliability of the District's water supply and reduce ongoing operations and maintenance efforts related to well redevelopment. Improving the capacity of the well will also ensure that the pump operates at optimal levels increasing its design life and power efficiency.	-
2	2017	Water	Water Bylaw Rewrite	Operations - Water	Water bylaw re-write	Current by-law is out of date. No teeth to go after water leaks. Add indoor water conservation regulations.	-
3	2017	Sewer	Wastewater Treatment Plant Condition Assessment	Engineering	This project will compile an inventory of key equipment, complete a review of the condition of critical components (structural, electrical, SCADA, HVAC) and make asset management recommendations in order to: identify necessary upgrades/replacement, logically sequence upgrade work in conjunction with other planned capacity upgrades and maintain proper function of the wastewater treatment plant.	The District has completed a Liquid Waste Management Plan that looked at increasing treatment capacity and quality in order to accommodate growth and achieve regulatory compliance on wastewater treatment. This project will ensure that we complete capacity upgrades while considering the age and condition of other critical components such as buildings and electrical systems. By taking a comprehensive approach that considers condition, it will allow the District to complete upgrades in the most cost efficient manner.	-
4	2017	Sewer	Wastewater Treatment Plant Building Envelope Inspection & Repairs	Operations - Sewer	Building envelopes (roofs, walls, doors and windows) at the wastewater treatment plant need to be inspected, deficiencies documented, and repairs prioritized and completed. This project was started in 2016 with an engineering inspection and recommendations. Phase 2 is to undertake the repairs recommended in 2017.	Building envelopes have not been inspected or major repairs completed since they were installed in 1996. Deferred preventive maintenance now needs to be caught up. This will prolong the lives of all buildings.	-
5	2017	Solid Water	Multi-Familly Organic Collection Roll-Out	Engineering	Roll-out of organics collection in apartments/condos. Includes: kitchen catchers (apx. 1,560 units), "in lobby" information sessions and promotion, and waste audits.	It is a priority of Council to reduce waste going into the landfill, especially organic waste. This will substantially reduce that waste.	-