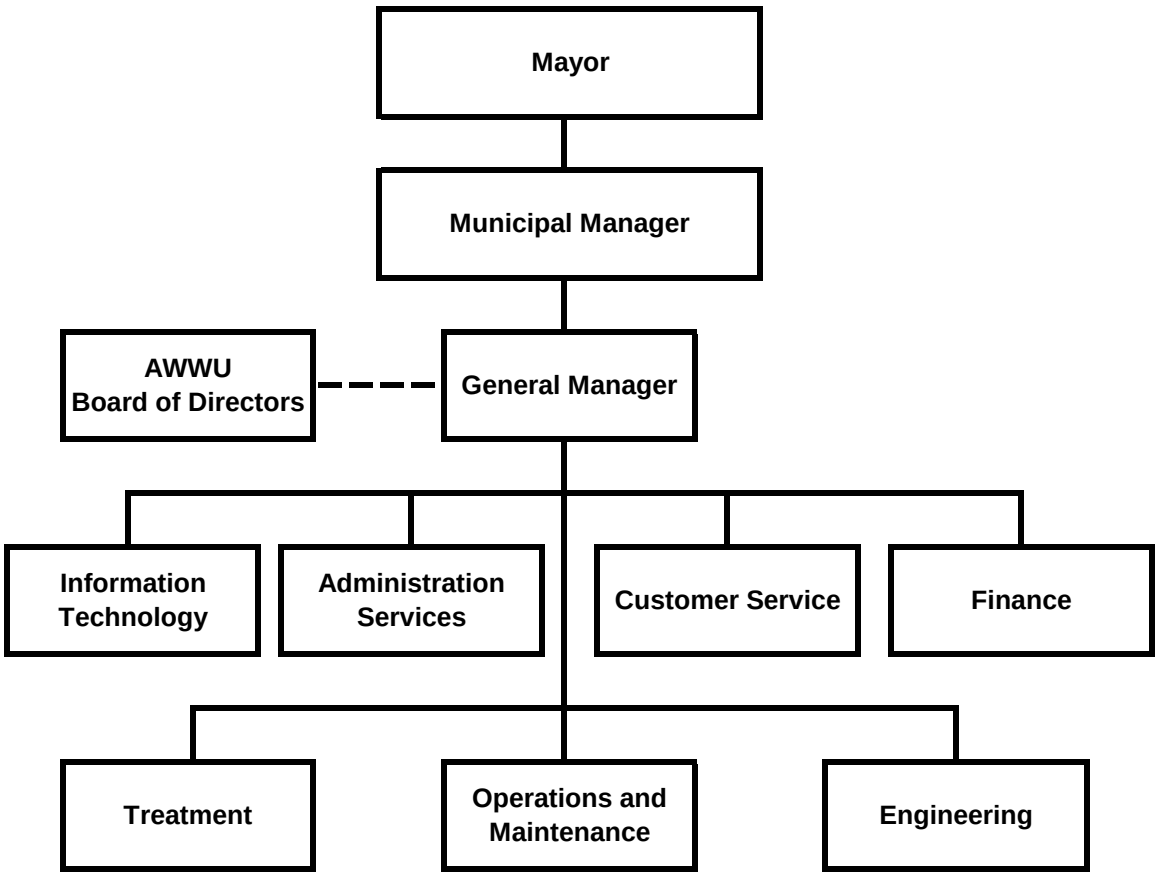
Anchorage Water & Wastewater Utility



Anchorage Water & Wastewater
Organizational Overview

Overview
The Anchorage Water and Wastewater Utility (AWWU) is the largest water and wastewater utility in Alaska. AWWU currently serves the Municipality of Anchorage extending from Eklutna to as far south as Girdwood. Although they share one workforce, AWWU operates as two separate economic and regulated entities: the Anchorage Water Utility (AWU) and the Anchorage Wastewater Utility (ASU).

System Description
To provide water and sewer services, AWWU owns and operates five Treatment Facilities (2 water and 3 wastewater), approximately 1,600 miles of pipe, and over 325,000 square feet of facility space distributed throughout the Municipality. The certificated water service area covers 130.4 square miles in three distinct geographic areas, Northern Communities, the Anchorage Bowl, and Girdwood Valley. Estimates place the water service population at approximately 240,000 people via nearly 56,000 customer accounts. The certificated sewer service area is larger, encompassing nearly all of the Municipality. ASU currently provides sewer service to approximately 250,000 people via approximately 57,000 customer accounts. Additionally, AWWU receives septage pumped from on-site wastewater systems on lots in areas not directly connected to the sewer system.

AWU's three sources of water are Eklutna Lake, Ship Creek, and groundwater accessed through a system of wells in the Northern Communities, the Anchorage Bowl, and Girdwood Valley. Eklutna Water Treatment Facility (WTF) and the wells which supply Girdwood are operated year-round and serve as the primary supply sources for the Anchorage and Girdwood water systems. The Ship Creek Water Treatment Facility and the remainder of the water wells are used to augment the primary water supply, mainly in times of peak demand, as well as provide redundancy to the Eklutna source for Eagle River and the Anchorage Bowl. Of these sources, the Eklutna Water Treatment Facility now provides approximately 86% of total water production for the Northern Communities/Eagle River and the Anchorage Bowl. In Girdwood, where system demand constitutes less than 2 percent of AWWU's total water production, all water produced and distributed is from two municipally-owned and managed wells.

ASU operates three wastewater treatment facilities to treat wastewater collected in three geographically separate but commonly managed sewer systems. The largest of these is the John M. Asplund Wastewater Treatment Facility (WWTF) located at Point Woronzof. The Asplund WWTF was constructed in the early 1970's when Anchorage eliminated direct ocean discharges. It services the wastewater treatment needs of the Anchorage Bowl. The Asplund facility has received silver, gold, and platinum awards from the National Association of Clean Water Agencies for efficiency and environmental compliance. ASU is continually at work to maintain and enhance the facility. The Asplund facility operates in accordance with a National Pollution Discharge Elimination System (NPDES) permit administered by the U.S. Environmental Protection Agency (EPA). The permit, which expired in 2005 but has been administratively extended by EPA, allows discharge of effluent receiving primary treatment, in accordance with Section 301(h) of the Clean Water Act.

The Eagle River WWTF was originally built in the 1960's and upgraded several times. It services the public wastewater treatment and disposal needs within Eagle River and Chugiak.

The Eagle River facility provides biological secondary treatment and discharges treated effluent to Eagle River in accordance with a permit recently reauthorized by the Alaska Department of Environmental Conservation (ADEC), which has assumed primacy from EPA over permits for wastewater discharge to fresh water.

The third facility is Girdwood WWTF. It was originally constructed in the 1970's and also has undergone several process modifications and upgrades. The Girdwood facility provides biological secondary treatment and discharges treated effluent to Glacier Creek under an administratively extended NPDES permit administered by the ADEC. The core facility is now at the end of its useful life. Phase 1 of plant replacement and upgrades was completed in 2014. Phase 2 of the plant replacement and upgrade is being planned to conform to discharge requirements of a new permit.

Over the past decade, investments in physical infrastructure have resulted in an increase in the value of AWU and ASU. From 2008 to present, plant in service has increased by 33% from $639.4 million to $847.8 million for AWU and by 38% from $486.5 million to $670 million for ASU. This growth is primarily a result of an increasing amount of investment in transmission and distribution assets (water pipelines) and collection plant assets (wastewater pipelines).

Organization

AWWU is organized into 7 divisions. The General Manager's office is responsible for overall operation of AWWU. The Engineering Division is responsible for development and execution of AWWU's capital program and for system planning. The Treatment Division is responsible for day-to-day operation of the treatment facilities and water distribution system and for maintaining compliance with all state and federal regulations. The Operations and Maintenance (O&M) Division maintains the treatment facilities and repairs all water and sewer piping and lift stations. The O&M Division also operates the wastewater collection system and is responsible for AWWU's SCADA system. The Customer Service Division is responsible for responding to customer inquiries, billing and collections for both utilities, issuing of permits, and field service functions. The Information Technology Division provides support for all of AWWU's computers, network, and software systems. The Administrative Services Division provides for training, safety, and internal and external communications. The Finance Division is responsible for all general ledger and plant accounting, preparation of utility budgets and financial statements, and regulatory filings.

Anchorage Water & Wastewater Utility
Business Plan

Vision
Excellence through innovation.

Mission
Providing safe and reliable water and wastewater service today and into the future.

Message
Anchorage Water & Wastewater Utility (AWWU) is investing to ensure reliable service, safeguard public health, and protect the environment, long into the future.

Services
AWWU is the largest water and wastewater utility in Alaska. AWWU currently serves the Municipality of Anchorage extending from Eklutna to as far south as Girdwood. Although they share one workforce, AWWU operates as two separate economic and regulated entities: the Anchorage Water Utility (AWU) and the Anchorage Wastewater Utility (ASU).

Business Goals
AWWU prepared an updated strategic plan in 2016. The plan includes the following goals:

- Be responsive to the needs of the community
- Be the model of innovation and efficiency in service to the public
- Be a responsible steward of ratepayer funds
- Be the employer of choice for existing and future staff

Commitments to Customers
AWWU has identified the following customer commitments which represent the outcomes or accomplishments of the Utilities' activities as viewed by the customer:

1. Provide safe drinking water that meets or exceeds all standards.
2. Protect the environment through appropriate wastewater collection, treatment, and disposal.
3. Provide reliable service.
4. Have timely, professional, and courteous interactions with customers.
5. Manage finances responsibly and transparently.
6. Set rates that fairly reflect the cost of providing service and maintaining infrastructure.
7. Deliver services affordably to promote a strong Anchorage economy.
8. Invest wisely to minimize risk and maintain service levels.
9. Continuously improve the efficiency of our operations.
10. Anticipate change and prepare for the future.

Performance Measures to Track Progress in Achieving Goals
AWWU measures progress in achieving these customer commitments using quantifiable performance measures, including the following:

1. Compliance with all State and Federal drinking water, wastewater and air standards.
2. Number of planned and unplanned water outages.
3. Sanitary sewer overflows.
4. Number of reportable injuries and accidents.
5. Execution of capital improvement budget.
6. Debt to equity ratio.

Anchorage Water and Wastewater Utility

Anchorage: Performance. Value. Results.

Mission

Supporting the public health, safety, and economic interests of the community by providing quality water and wastewater services in a responsible, efficient, and sustainable manner.

Core Services

- Reliably treat and distribute potable water for domestic, commercial, and firefighting uses throughout the certificated service area.
- Reliably collect, treat and dispose of wastewater in accordance with laws and regulations that protect public health and the environment.

Accomplishment Goals

- Provide reliable service
- Provide safe drinking water that meets or exceeds all standards
- Protect the environment through appropriate wastewater collection, treatment, and disposal.
- Fiscal responsibility and transparency with utility finances.
- Timely, professional, and courteous interactions with customers.
- Rates that fairly reflect the cost of providing service and maintaining infrastructure
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Performance Measures

Progress in achieving goals shall be measured by:

1. Compliance with all State and Federal drinking water standards /wastewater standards /Clean Air Act standards
2. Number of planned and unplanned water outages
3. Sanitary sewer overflows
4. Recordable incident rate (as compared to the standard incident rate for water and wastewater utilities)
5. Execution of capital improvement budget
6. Debt to equity ratio

Measure 1: Compliance with all State and Federal drinking water, wastewater, and clean air standards

Type
Effectiveness

Accomplishment Goals Supported
- Provide reliable service
- Provide safe drinking water that meets or exceeds all standards
- Protect the environment through appropriate wastewater collection, treatment, and disposal.

Definition
The number of regulatory requirements meeting compliance standards divided by the total number of regulatory requirements for the time period. The total number of regulatory requirements is the sum of daily, weekly and monthly compliance standards.

Data Collection Method
All samples collected are compared with the State or Federal regulatory standards and any violations are noted and reported in accordance with permit stipulations.

Frequency
The percent compliance measurement will be calculated quarterly, using running totals for the calendar year.

Measured By
The Treatment Division will prepare a report from the water quality and laboratory databases that identifies any samples or reportable incidents that do not meet regulatory standards.

Reporting
The Treatment Division Director will update the report quarterly from the water quality and laboratory databases. The information will be displayed in tabular form.

Used By
The Treatment Division Director and General Manager will use the information to gain a clearer understanding of performance of AWWU's treatment facilities and determine if changes in system operation or maintenance are required.

Result

Measure 1: Compliance with all State and Federal drinking water, wastewater, and clean air standards	Goal	2018 Q4	2018 Q3	2018 Q2	2018 Q1	Past Years 2017	2016	2015	2014	2013	2012
Safe Drinking Water Act Compliance (%)	100			100	99.1	97.6	100	100	100	100	100
Clean Water Act (NPDES permit) Compliance (%)	100						100	100			
-Asplund				100	98.9	100	100	100	100	99.8	100
-Eagle River				100	98.9	100	99.7	100	100	100	99.5
-Girdwood				100	100	100	99.7	99.5	99.8	99.3	97.5
Clean Air Act Compliance (%) (Asplund Incinerator)	100			100	100	100	99.99	99.998	100	99.998	99.99

Measure 2: Number of planned and unplanned water outages

Type
Effectiveness

Accomplishment Goal Supported
- Provide reliable service
- Provide safe drinking water that meets or exceeds all standards
- Protect the environment through appropriate wastewater collection, treatment, and disposal.
- Timely, professional, and courteous interactions with customers.
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future

Definition
A water outage is defined as a disruption in service to a service connection. A service connection serves one customer, although multiple people may be affected by the disruption in service to a residence or a business.

Data Collection Method
A tally is kept through each calendar month of the number of customers who experience planned and unplanned water service disruptions for a range of durations listed below. The outage is as reported to AWWU and confirmed by observation or analysis in the field.

Frequency
The measurement will be recorded at the beginning of each month for the preceding month.

Measured By
Number of customers who do not have water service for the following durations:
- Less than 4 hours
- Between 4 hours and 12 hours
- Greater than 12 hours

Disruptions are counted for planned activities (customers are given advance notice in writing) and unplanned (emergency) activities.

Reporting
The Strategic Asset Services Section will create a monthly report that will be show water outages numerically and graphically.

Used By
The O&M Division, Customer Service Division, and Strategic Asset Services Section and the General Manager will review these data monthly to evaluate adequacy of operation and maintenance approaches, customer service response and pipe condition.

Results

		2018					Past Years				
Measure 2: Number of planned and unplanned water outages (customers per month)	**Goal**	**Monthly Average**	**Q4**	**Q3**	**Q2**	**Q1**	**2017**	**2016**	**2015**	**2014**	**2013**
Planned Outages											
<4 hours	<20	2			2	2	10	5	18	27	25
4-12 hours	<20	0			0	0	71	8	23	37	86
>12 hours	0	0			0	0	2	0.2	0.2	0.6	0.3
Unplanned Outages											
<4 hours	<20	40			74	5	13	92	41	40	27
4-12 hours	<50	39			54	24	38	22	33	44	33
>12 hours	0	3.5			0	7	2.5	5	0.2	3	8

Measure 3: Sanitary Sewer Overflows

Type
Effectiveness

Accomplishment Goals Supported
- Provide reliable service.
- Timely, professional, and courteous interactions with customers.
- Protect the environment through appropriate wastewater collection, treatment, and disposal.
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Definition
Total number of wastewater overflows onto the ground or wastewater back-ups into customer residences if caused by an obstruction in an AWWU sewer main, manhole, or cleanout. Overflows or backups that occur due to on-property blockages do not count.

Data Collection Method
The reportable number of sanitary sewer overflows is what is reported in writing to the EPA Region X office within a week of each occurrence.

Frequency
The measurement will be recorded each month for the previous month.

Measured By
Data collection is by direct observation by AWWU staff.

Reporting
The O&M Division will create a monthly report displaying overflow data numerically and graphically.

Used By
The O&M Division, Customer Service Division, and Strategic Asset Services Section and the General Manager will review these data monthly to evaluate adequacy of operation and maintenance approaches, customer service response and pipe condition.

	Goal	2018				Historical monthly average					
		Q4	Q3	Q2	Q1	2017	2016	2015	2014	2013	2012
Measure 3: Sanitary Sewer Overflows (monthly)	<1.5			1	0.33	0.91	1.48	1.58	1.75	2.25	1.83

Measure 4: Number of reportable injuries and accidents

Type
Effectiveness

Accomplishment Goal Supported
- Provide reliable service
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Definition
Number of OSHA recordable incidents multiplied by 200,000 (# defined by OSHA as 100 employees working full-time for a year) divided by number of hours worked by all employees. Compare Recordable incident rate to standard industrial rate (SIR) for water and wastewater utilities.

Data Collection Method
Accident and near-miss reports.

Frequency
Annually.

Measured By
Safety Program Manager, Administrative Services Division.

Reporting
The Administrative Services Division will maintain an accident and near miss report on a monthly basis. Data will be compiled, summarized, and reported at the end of the year. Reportable incidence rates will appear mid-calendar year.

Used By
The Safety Manager, all Division Directors and the General Manager will use the report to monitor and adjust working practices and focus training and attention to hazardous situations.

Results

	Goal	2018	2017	2016	2015	2014	2013	2012
Measure 4: Number of reportable injuries and accidents (annual)	<4.60		4.45	6.30	6.26	6.37	4.48	5.2

Note: Bureau of Labor Statistics (BLS) will normally post the previous year's incidence rate during the months of June or July. AWWU falls within the utilities sector of electric power generation, transmission and distribution; natural gas distribution; and water, sewer, and other systems.

Update - From the Bureau of Labor Statistics: **Important note on future data:** Beginning with the 2016 reference year, the Survey of Occupational Injuries and Illnesses (SOII) will present a single release of national data on **November 9, 2017**. This release will include industry counts and rates along with case circumstances and worker characteristics for cases requiring days away from work. In previous years, these data were released separately. State data was released on November 28, 2017. A similar schedule will be followed in subsequent years.

Measure 5: Execution of Capital Improvement Budget

Type
Efficiency

Accomplishment Goal Supported
- Provide reliable service
- Fiscal responsibility and transparency with utility finances.
- Rates that fairly reflect the cost of providing service and maintaining infrastructure
- Continuous improvement in the efficiency of our operations
- Anticipate change and be prepared for the future.

Definition
The ratio (as a percent) of capital project dollars expended through the fiscal year divided by the planned expenditure for the year as indicated in the approved Capital Improvement Budget.

Data Collection Method
Project Managers input % complete data and expected completion dates for each project named in the capital improvement budget.

Frequency
Estimates of the completeness (% complete) of all ongoing projects will be reported through the AWWU Engineering Division Project Management group annually and with quarterly updates to yearly progress.

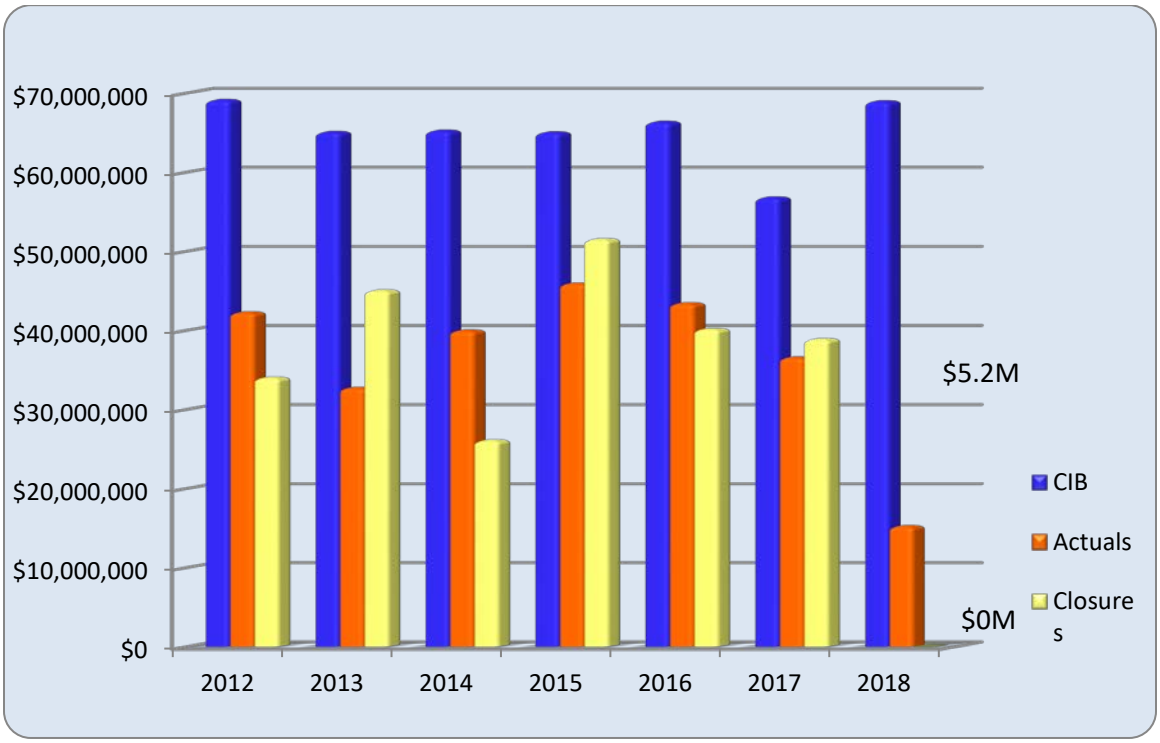
Measured By
The Engineering Division will keep track of this information using the ERP tracking and reporting system.

Reporting
The information will be displayed numerically and graphically in monthly reports.

Used By
The Engineering Director and General Manager will use this data to gauge progress on use of capital project funds.

Results:

	Goal	2018	Historical Information					
			2017	2016	2015	2014	2013	2012
Measure 5: Execution of Capital Improvement Budget (annual)	75%		64%	65%	71%	61%	56%	65%



Budget, Expenditures, and Closures through June 30, 2018

Measure 6: Debt to Equity Ratio

Type
Effectiveness

Accomplishment Goal Supported
- Fiscal responsibility and transparency with utility finances.
- Anticipate change and be prepared for the future.

Definition
The relative percentages of assets that are funded by debt and equity, respectively. The total of debt funding and equity funding equals 100%.

Data Collection Method
The calculation is performed by comparing debt and equity to assets annually.

Frequency
The measurement will be calculated annually upon completion of the Utility's audited financial statement.

Measured By
The Finance Division will calculate this ratio from financial statement data.

Reporting
The Finance Division manager will create and maintain an annual report. Trend information will be displayed in a table.

Used By
The information will be used by the Finance Division Director, General Manager, Board, and Administration to help evaluate debt financing levels.

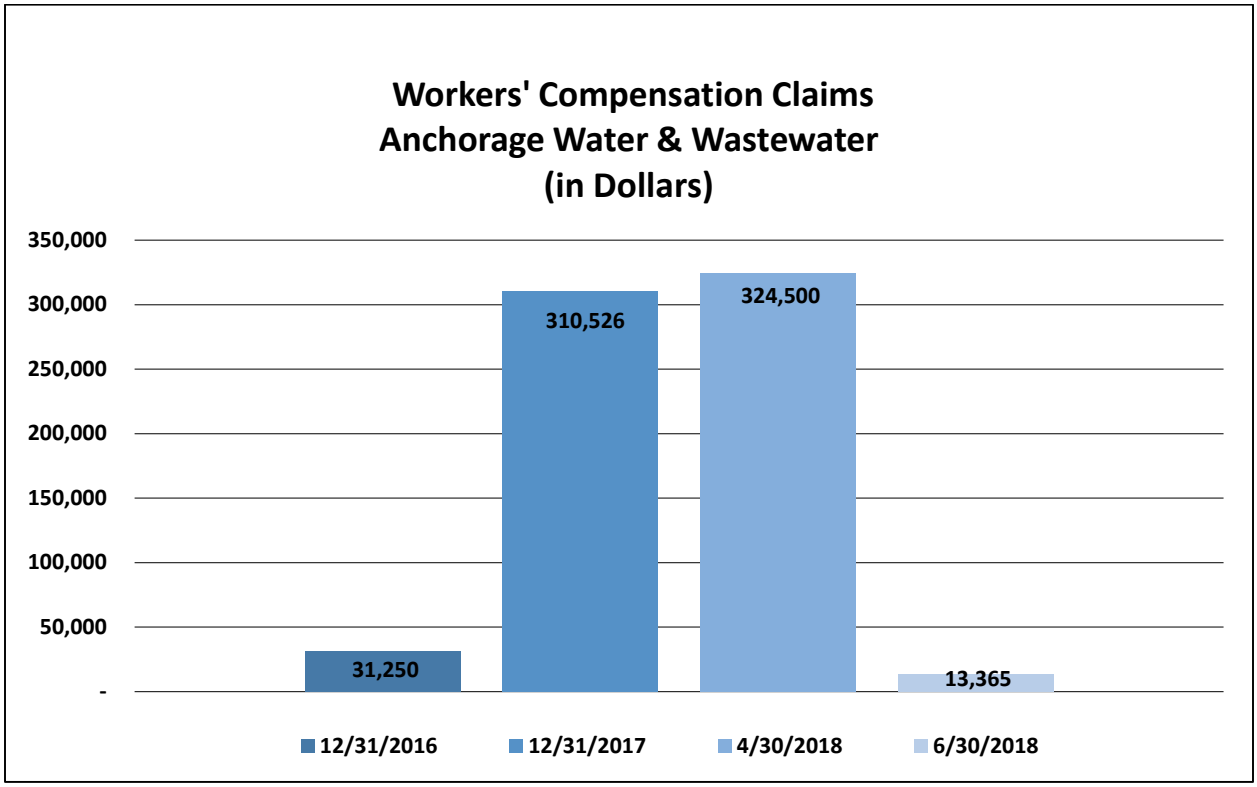
Results

Measure 6: Debt to Equity Ratio (annual)	**Goal**	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Water Utility	67/33	61/39	62/38	63/37	62/38	65/35	67/33	70/30
Wastewater Utility	67/33	65/35	67/33	67/33	65/35	67/33	66/34	68/32

PVR Measure WC: Managing Workers' Compensation Claims

Reducing job-related injuries is a priority for the Administration by ensuring safe work conditions and safe practices. By instilling safe work practices we ensure not only the safety of our employees but reduce the potential for injuries and property damage to the public. The Municipality is self-insured and every injury poses a financial burden on the public and the injured worker's family. It just makes good sense to WORK SAFE.

Results are tracked by monitoring monthly reports issued by the Risk Management Division.



Anchorage Water & Wastewater
Highlights and Future Events

Aging Infrastructure
At the current time, AWWU provides best-in-class service as measured against industry benchmarks such as drinking water compliance rate, water quality complaints, water pipeline breaks, unplanned service disruptions, compliance with discharge permits, collection system failures, and sewer overflows. However, the infrastructure required to provide water and sewer service is aging and will require significant annual capital investments to maintain service levels.

In aggregate, AWU's physical assets are considered to have about one-half of their useful lives consumed. The water transmission and distribution system pipe network consists of over 846 miles of pipe, has a weighted average age of over 36 years. Other AWU assets including reservoirs, wells, booster stations, and major valve vaults are of varying age, but in aggregate, have reached just over one-half of their useful lives and have undergone or have been scheduled for major re-investment over the next 5 years. Significant investment has been made in AWU's water treatment plants over the last 5 years to bring them current to technology, including an almost $20 million update of the Ship Creek Water Treatment Facility to maintain it as a peaking and emergency treatment plant.

ASU's sewer pipe network consists of over 759 miles of pipe and has a weighted average age of 38 years, again reflecting just over one-half of the estimated useful lives of pipe and approximately three-fifths of the estimated useful lives of other sewer plant. Within Anchorage, more than $50 million of investment occurred at the JM Asplund Wastewater Treatment Facility (WWTF) over the past decade. In Eagle River, new process improvements and support systems (headworks, UV disinfection, mechanical and HVAC systems) worth over $20 million were built over the last ten years. The exception is the Girdwood WWTF, which is now over 30 years old and reaching the end of its useful life as documented by multiple studies performed since 2006. An approximate $24 million investment in new electrical generation, flow handling, and administrative space was completed in 2015. The second phase of upgrades to the Girdwood WWTF is estimated to cost around $50 million and is pending regulatory approval of treatment standards by ADEC prior to the project beginning.

AWWU has advanced its asset management program to manage the Utility's aging infrastructure. The primary components of AWWU's asset management program include:

- Risk based approach that categorizes AWWU's assets and evaluates each asset's class on the basis of consequence and likelihood of failure.
- Robust analysis of system performance and maintenance data to predict service lives of different asset classes.
- Business case analysis of major projects to determine solutions yielding lowest overall lifecycle costs.
- Use of state-of-the-art repair and rehabilitation technologies to reduce service disruption and reduce costs.
- Condition assessment monitoring and evaluation using both AWWU staff and specialized contractors.

Limited Customer Growth
The Anchorage economy and land-use development patterns are such that AWWU does not anticipate significant customer growth rate for the foreseeable future. Limited customer growth represents a significant challenge for AWWU because there are few new customers to help cover the cost of maintaining infrastructure. Exacerbating the lack of customer growth is the repair and replacement of contributed plant. In the 1990's, over 70% of the plant in-service was contributed (i.e., given to AWWU or paid for by grants). Today that percentage is about 50% and decreasing steadily. Contributed plant is not included in rates for calculating depreciation costs and earning a return. However, repair and replacement of this considerable portion of our plant-in-service must be borne wholly by customers. With a very slow growth of the customer base, cost of this repair and replacement will increase over time for each customer.

There is very little AWWU can do to encourage significant customer growth without major changes in policy and community desires. Most of AWWU's customer growth will come from redevelopment of existing properties in the MOA, expansion in outlying areas (which require significant expenditures to extend infrastructure) and limited infill. Redevelopment and infill must comply with current codes and utility tariffs, which may require upgrades to existing utility service.

Aging Workforce
AWWU is typical of the industry in that we have an aging workforce. Over half of AWWU's workforce is 45 years old or more. Many of these individuals can be expected to retire in the next few years. Many of these individuals are the experienced and licensed professionals required to operate AWWU's facilities in compliance with Alaska regulations. Alaska's oil industry and the boom in oil and gas development in the lower 48 presents some competitive forces to retaining water and wastewater professionals. The oil industry typically pays significantly higher wages than AWWU.

Debt
At the end of 2017, AWWU was carrying approximately $403.4 million in total net debt. AWWU can easily service this debt and the Utility maintains healthy operating margins and debt service coverage ratios. However, compared to peer utilities, AWWU has a significant amount of debt and finances much less of its capital program with equity.

Two major factors have contributed to AWWU's current debt/equity position. First, during the 1990's, AWWU did not have rate increases and had a very modest capital improvement budget (CIB). During these years, reductions in workforce levels and improvements in worker productivity as a result of investments in appropriate technology allowed the Utility to operate effectively, but not accumulate equity.

Rate Increases Calculated, Requested, and Approved
AWWU 2004-2017

	Calculated Rate Increase in RRS		Requested Permanent Rate Increase		Approved/Stipulated Permanent Rate Increase		
Rate Year	AWU	ASU	AWU	ASU	AWU	ASU	Reason For Requesting Increases Less Than The Calculated Increases
2004	14.20%	8.10%	14.20%	8.10%	13.60%	8.10%	The calculated increases were requested due to the change in the MUSA calculation.
2005	7.20%	6.80%	7.20%	6.80%	7.80%	3.00%	The calculated increases were requested due to the change in the MUSA calculation.
2006	12.40%	15.00%	8.90%	10.60%	6.50%	10.60%	Policy direction to limit rate increases requested to reduce impact on customers.
2007	15.00%	17.80%	14.50%	13.00%	7.00%	9.50%	Policy direction to limit rate increases requested to reduce impact on customers.
2008	-	-	-	-	-	-	Rate changes were not requested by AWWU for 2008.
2009	8.70%	8.00%	7.00%	6.50%	5.60%	6.50%	Policy direction to limit rate increases requested to reduce impact on customers.
2010	7.00%	9.50%	2.50%	2.50%	2.50%	2.50%	Policy direction to limit rate increases requested to reduce impact on customers.
2011	18.50%	26.20%	8.00%	15.00%	8.00%	15.00%	Policy direction to limit rate increases requested to reduce impact on customers.
2012	13.00%	16.60%	6.00%	11.00%	6.00%	11.00%	Policy direction to limit rate increases requested to reduce impact on customers.
2013	9.10%	6.80%	6.00%	4.50%	6.00%	4.50%	Policy direction to limit rate increases requested to reduce impact on customers.
2014	5.60%	6.70%	4.00%	5.50%	2.26%	4.34%	Policy direction to limit rate increases requested to reduce impact on customers. AWWU stipulated to permanent rates lower than the rates requested.
2015	-	-	-	-	-	-	Rate changes were not requested by AWWU for 2015.
2016	-	-	-	-	-	-	Rate changes were not requested by AWWU for 2016.
2017	-	11.90%	-	9.50%	-	9.50%	Policy direction to limit rate increases requested to reduce impact on customers.

AWWU historical rates are presented above. To improve its debt position, AWWU must continue to request reasonable rates and at the same time control expenses. The budget provided in this package provides just such a balance.

Anchorage Water & Wastewater Utility
External Impacts

Wastewater Treatment Facilities Discharge Permits
The State of Alaska Department of Environmental Conservation (ADEC) assumed authority for permitting wastewater discharges for the Girdwood and Eagle River Wastewater Treatment Facilities (WWTF) in November 2008. The Eagle River WWTF permit was reissued by ADEC in 2014, and will be valid for at least five years. The Girdwood WWTF permit is administratively extended pending reissuance by ADEC. The Utility is working closely with ADEC to ensure that a proposed upgrade to the Girdwood WWTF is consistent with terms and conditions of the new permit, when it is reissued.

Authorization of discharge into marine waters from the Asplund WWTF remains under the auspices of the U.S. Environmental Protection Agency (EPA). The EPA is currently evaluating the Utility's application for reauthorization of the permit allowing only primary treatment, in accordance with criteria set out in Section 301(h) of the Clean Water Act. Subsequent to the agency's determination that the Asplund discharge meets the 301(h) criteria, EPA will consult with the National Marine Fisheries Service (NMFS) on the effects of the permit reauthorization on endangered species (i.e., the Cook Inlet beluga whale). If NMFS finds that the discharge reauthorization is likely to jeopardize continued existence of the species or adversely modify critical habitat, NMFS may impose conditions on the permit to mitigate the effects on the species. Discussions with federal agencies to-date suggest that such a finding is unlikely.

Aging Infrastructure
At the current time, AWWU provides best-in-class service as measured against industry benchmarks. However, the infrastructure required to provide water and sewer service is aging and will require significant annual capital investments to maintain service levels.

AWWU has advanced its asset management program to optimize spending on the Utility's aging infrastructure. We are performing business case analyses of major issues to determine solutions that lead to lowest overall life cycle costs, as well as extensive condition assessment monitoring and evaluation using both AWWU staff and specialized contractors. This work is expected to provide best value to ratepayers in the long term.

Anchorage Water & Wastewater Utility
Workforce Projections

Division	2017	2018	2019	2020	2021	2022	2023	2024
Administrative Services	5	5	5	5	5	5	5	5
Customer Service	41	41	41	41	41	41	41	41
Engineering	41	41	41	41	41	41	41	41
Finance	21	21	21	21	21	21	21	21
General Manager	2	2	2	2	2	2	2	2
Information Technology	18	18	18	18	18	18	18	18
Operations and Maintenance	91	91	91	91	91	91	91	91
Treatment	64	64	65	65	65	65	65	65
Total Full Time	**283**	**283**	**284**	**284**	**284**	**284**	**284**	**284**
Part time	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Seasonal Temporary	4	4	4	4	4	4	4	4
Interns	7	7	8	8	8	8	8	8
Total Temporary	**11**	**11**	**12**	**12**	**12**	**12**	**12**	**12**
Total Positions	**295**	**295**	**297**	**297**	**297**	**297**	**297**	**297**

Anchorage Water Utility
8 Year Summary
($ in thousands)

DRAFT

Financial Overview	2017 Actuals	2018 Proforma	2019 Proposed	2020	2021	2022	2023	2024
				Forecast				
Revenues	60,284	61,832	66,786	70,599	75,419	77,629	80,919	83,049
Expenses and Transfers	50,135	54,438	61,292	61,120	62,630	65,900	66,800	68,440
Net Income (Loss) - Regulatory	**10,149**	**7,394**	**5,494**	**9,479**	**12,789**	**11,729**	**14,119**	**14,609**
Dividend to General Government	-	-	-	1,650	3,130	4,220	3,870	4,660
Increase in Net Assets	**10,149**	**7,394**	**5,494**	**7,829**	**9,659**	**7,509**	**10,249**	**9,949**
Budgeted Positions*	295	295	297	297	297	297	297	297
Capital Improvement Program	32,963	32,620	32,698	33,683	34,528	35,642	36,773	35,570
New Debt	17,360	20,500	46,000	9,300	9,500	70,800	10,100	9,800
Net Capital Assets (12/31)	552,868	566,354	577,485	589,206	601,008	613,825	627,484	638,767
Net Position (12/31)	150,509	157,098	162,889	170,717	180,376	187,884	198,133	208,081
Operating Cash	34,355	34,316	32,004	30,504	31,868	29,233	28,779	29,587
Construction Cash Pool	4,453	3,502	30,095	19,346	6,999	55,022	41,331	26,794
Restricted Cash	238	252	252	252	252	252	252	252
Total Cash	**39,046**	**38,070**	**62,351**	**50,102**	**39,119**	**84,507**	**70,362**	**56,633**
IGCs - General Government	1,910	2,634	2,277	2,277	2,277	2,277	2,277	2,277
MUSA	7,991	8,525	8,654	8,510	8,680	8,850	9,040	9,240
CCP Borrowings from Gen'l Govt.	-	-	-	-	-	-	-	-
Total Outstanding LT Debt	229,630	237,811	270,921	265,140	258,951	312,185	304,126	295,707
Total Annual Debt Service	14,268	17,865	21,385	22,321	22,763	26,836	27,187	26,982
Debt Service Coverage (Bond)	3.82	2.69	2.28	2.37	2.68	2.07	2.21	2.36
Debt Service Coverage (Total)	1.81	1.39	1.28	1.37	1.51	1.32	1.38	1.42
Debt/Equity Ratio	60 / 40	60 / 40	62 / 38	61 / 39	59 / 41	62 / 38	61 / 39	59 / 41
Rate Change Percent	0.0%	3.0%	7.0%	5.6%	6.5%	2.4%	3.7%	2.8%
Single Family Rate	49.70	51.19	54.77	57.84	61.60	63.08	65.41	67.41
Statistical/Performance Trends								
Number of Accounts	56,431	56,572	56,714	56,855	56,997	57,140	57,283	57,426
Average Treatment (MGD)	22.3	22.4	22.4	22.5	22.5	22.6	22.6	22.7
Miles of Water Lines	846	848	850	852	854	857	859	861
Number of Public Hydrants	6,038	6,053	6,068	6,083	6,099	6,114	6,129	6,144

* Workforce Authorized per Budget is for both Water and Wastewater utilities.

Anchorage Water Utility
Statement of Revenues and Expenses

	DRAFT 2017 Actuals	2018 Proforma	2018 Revised	19 v 18 $ Change	2019 Proposed	19 v 18 % Change
Operating Revenue						
Charges for services	58,146,035	59,897,000	60,217,000	4,640,450	64,857,450	7.7%
Miscellaneous	1,282,525	1,255,000	1,266,000	27,550	1,293,550	2.2%
Total Operating Revenue	**59,428,560**	**61,152,000**	**61,483,000**	**4,668,000**	**66,151,000**	7.6%
Non Operating Revenue						
Investment Income	850,796	674,308	680,000	(50,000)	630,000	-7.4%
Other Income	4,618	5,728	-	5,000	5,000	100.0%
Total Non Operating Revenue	**855,414**	**680,036**	**680,000**	**(45,000)**	**635,000**	**-6.6%**
Total Revenue	**60,283,974**	**61,832,036**	**62,163,000**	**4,623,000**	**66,786,000**	**7.4%**
Operating Expenses						
Labor						
Labor and Benefits	15,995,478	16,792,923	17,336,572	514,621	17,851,193	3.0%
Overtime	842,989	818,353	453,000	-	453,000	0.0%
Total Labor	16,838,467	17,611,276	17,789,572	514,621	18,304,193	2.9%
Non Labor						
Non Labor	8,669,864	9,237,262	9,880,266	542,393	10,422,659	5.5%
Travel	63,266	68,078	85,400	-	85,400	0.0%
Transfers (MUSA and gross receipts)	7,991,023	8,524,750	8,100,000	734,000	8,834,000	9.1%
Depreciation and Amortization	11,039,176	11,553,000	11,720,000	2,662,000	14,382,000	22.7%
Total Non Labor	27,763,329	29,383,090	29,785,666	3,938,393	33,724,059	13.2%
Total Direct Cost	**44,601,796**	**46,994,366**	**47,575,238**	**4,453,014**	**52,028,252**	**9.4%**
Charges from other departments	1,910,389	2,633,863	2,612,476	(334,520)	2,277,956	-12.8%
Charges to other departments	-	-	-	-	-	0.0%
Intradepartmental Overheads	-	(730,000)	(541,450)	(300,000)	(841,450)	0.0%
Total Operating Expense	**46,512,185**	**48,898,229**	**49,646,264**	**3,818,494**	**53,464,758**	**7.7%**
Non Operating Expense						
Interest on bonded debt	2,836,933	5,273,651	5,298,000	2,453,500	7,751,500	46.3%
Amortization of debt expense	98,393	(842,988)	345,000	(1,224,478)	(879,478)	-354.9%
Other interest expense	1,754,978	2,009,349	1,985,000	200,000	2,185,000	10.1%
Interest during construction	(1,067,547)	(900,000)	(900,000)	(330,000)	(1,230,000)	36.7%
Total Non Operating Expense	**3,622,757**	**5,540,012**	**6,728,000**	**1,099,022**	**7,827,022**	**16.3%**
Total Expenses (Function Cost)	**50,134,942**	**54,438,241**	**56,374,264**	**4,917,516**	**61,291,780**	**8.7%**
Net Income	**10,149,032**	**7,393,795**	**5,788,736**	**(294,516)**	**5,494,220**	**-5.1%**
Appropriation:						
Total Expenses			**56,374,264**	**4,917,516**	**61,291,780**	
Less: Non Cash items						
Depreciation and amortization			11,720,000	2,662,000	14,382,000	
Amortization of debt expense			345,000	(1,224,478)	(879,478)	
Interest during construction			(900,000)	(330,000)	(1,230,000)	
Total Non-Cash			11,165,000	1,107,522	12,272,522	
Amount to be Appropriated (cash expenses)			**45,209,264**	**3,809,994**	**49,019,258**	

Anchorage Water Utility
Reconciliation from 2018 Revised Budget to 2019 Proposed Budget

	Appropriation	Positions FT	PT	T
2018 Revised Budget	56,374,264	283	1	11
Transfers (to)/from Other Agencies				
- Charges from other departments	(334,520)	-	-	-
Debt Service Charges				
- Interest	1,099,022	-	-	-
Changes in Existing Programs/Funding for 2019				
- Salary and benefits adjustments	291,621	-	-	-
- Depreciation	2,662,000	-	-	-
- Administrative Overhead	(100,000)	-	-	-
- Facility Rent	25,505	-	-	-
- MUSA	734,000	-	-	-
2019 Continuation Level	**60,751,892**	**283**	**1**	**11**
2019 Proposed Budget Changes				
- Labor - Safety Intern	10,000	-	-	1
- Labor - PCN Upgrade	13,000	-	-	-
- Labor - Pretreatment Compliance Inspector (Cost is in ASU)	-	1	-	-
- Lockout/Tagout	5,000	-	-	-
- ARC Flash	5,000	-	-	-
- Radio Network Upgrades	50,000	-	-	-
- Regulatory Lead/Lag Study	25,000	-	-	-
- Meter/MIU Installs	75,000	-	-	-
- Software Maintenance	(20,612)	-	-	-
- Public Outreach	10,000	-	-	-
- Computer Hardware	60,000	-	-	-
- Mobile, Text, Bill Print Upgrades	20,000	-	-	-
- Major Facility Maintenance	200,000	-	-	-
- Other Professional Services	87,500	-	-	-
2019 Proposed Budget	**61,291,780**	**284**	**1**	**12**
2019 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(14,382,000)	-	-	-
- Amortization of debt expense	879,478	-	-	-
- Interest during construction	1,230,000	-	-	-
2019 Proposed Budget (Appropriation)	**49,019,258**	**284**	**1**	**12**

Workforce Authorized per Budget is for both Water and Wastewater utilities.

Anchorage Water Utility
2019 - 2024 Capital Improvement Program
(in thousands)

Project Category	2019	2020	2021	2022	2023	2024	Total
ADOT-MOA-Emergency	1,000	1,000	1,000	1,000	1,000	4,000	9,000
Facility Master Plan	-	-	-	-	-	-	-
IT Hardware/Software	2,235	1,925	1,475	1,450	1,425	1,425	9,935
Miscellaneous Equipment	1,100	950	1,100	950	1,100	950	6,150
Other Plant & Facilities	3,000	650	-	500	250	650	5,050
Transmission/Distribution	16,710	22,088	20,785	24,898	28,875	22,025	135,381
Vehicles	1,145	1,000	1,000	1,000	1,000	1,000	6,145
Water Plant	7,508	6,070	9,168	5,844	3,123	5,520	37,233
Total	**32,698**	**33,683**	**34,528**	**35,642**	**36,773**	**35,570**	**208,894**

Funding Source	2019	2020	2021	2022	2023	2024	Total
Debt	22,198	23,683	25,528	26,642	27,773	27,570	153,394
Equity/Operations	10,000	10,000	9,000	9,000	9,000	8,000	55,000
State Grant	500	-	-	-	-	-	500
Total	**32,698**	**33,683**	**34,528**	**35,642**	**36,773**	**35,570**	**208,894**

Anchorage Water Utility
2019 Capital Improvement Budget
(in thousands)

Project Title	Debt *	State/Fed Grant	Equity/ Operations *	Total
ADOT-MOA Emergency				
ADOT-MOA-Emergency -Water	-	-	1,000	1,000
ADOT-MOA Emergency	**-**	**-**	**1,000**	**1,000**
IT Hardware/Software				
AMS	-	-	215	215
Customer Information System Enhancements	-	-	850	850
ArcGIS - MapOptix Replacement	-	-	145	145
ArcGIS - Maximo Interface	-	-	100	100
Information Technology Infrastructure	-	-	600	600
Miscellaneous Information Technology Systems	-	-	250	250
Work Management Software	-	-	75	75
IT Hardware/Software	**-**	**-**	**2,235**	**2,235**
Miscellaneous Equipment				
Facility Equipment - Water	-	-	350	350
SCADA Equipment	-	-	750	750
Miscellaneous Equipment	**-**	**-**	**1,100**	**1,100**
Other Plant & Facilities				
3000 Arctic Building Upgrade	1,400	-	-	1,400
3000 Arctic HVAC Upgrades	1,600	-	-	1,600
Other Plant & Facilities	**3,000**	**-**	**-**	**3,000**
Transmission/Distribution				
900 Reservoir & Transmission Main	500	-	-	500
92nd Ave Intertie Zone Conversion	750	-	-	750
Abbas Cir Water Main	135	-	-	135
Anch_Touwnsite_5th_8th_Wtr_Upgr	-	-	1,500	1,500
Girdwood Air Vac Vaults	150	-	-	150
Girdwood St Moritz Emergency Generation	400	-	-	400
Girdwood Timberline PRV Upgrade	-	-	400	400
Girdwood Virgin Creek Sample Station	100	-	-	100
Glenn Square PRV Facility	-	-	600	600
Hillcrest WDID	-	500	1,300	1,800
Mink_Avenue_Water_Rehab	436	-	-	436
Mockingbird_Drive_Water_Rehab	266	-	-	266
Plant Oversize Improvement-Water	25	-	-	25
PME_Turnagain_Street_Wtr_Upgr	600	-	-	600
Programmatic Small Interties	85	-	-	85
Res 03/04 Circulation Line	1,100	-	-	1,100
Tanglewood Place_Water_Rehab	463	-	-	463
TBird_Grandview_Subd_Wtr_Upgrade	6,600	-	-	6,600
Valve Vault Infiltration Rehab	50	-	-	50
Water Master Plan	30	-	720	750
Transmission/Distribution	**11,690**	**500**	**4,520**	**16,710**
Vehicles				
DO SCWTF Loader	-	-	90	90
Vehicles - Water	-	-	375	375
Vactor Truck (94950) Line Truck (94856)	-	-	680	680
Vehicles	**-**	**-**	**1,145**	**1,145**

Anchorage Water Utility
2019 Capital Improvement Budget
(in thousands)

Project Title	Debt *	State/Fed Grant	Equity/ Operations *	Total
Water Plant				
ER Well Rehab - Norfolk, Well #8	750	-	-	750
EWTF ERS Control Improvements	370	-	-	370
EWTF Primary Electrical Upgr	3,588	-	-	3,588
EWTF SCADA Backbone & Fire Improvements	500	-	-	500
Facility Plant - Water	750	-	-	750
Girdwood Well Rehab	1,000	-	-	1,000
SCWTF Domestic Water Piping Replacement	190	-	-	190
Well 4 Upgrade	360	-	-	360
Water Plant	**7,508**	**-**	**-**	**7,508**
Total	**22,198**	**500**	**10,000**	**32,698**

* Debt and Equity/Operations funding amounts by category are estimates and subject to change as actual loans are awarded by the State of Alaska.

Anchorage Water Utility
Statement of Cash Sources and Uses

	DRAFT 2017 Actuals	2018 Proforma	2019 Proposed
Sources of Cash Funds			
Operating Income	20,254,862	20,817,072	21,028,272
Depreciation, net of amortization	11,039,176	11,553,000	14,382,000
Special Assessment Proceeds	609,631	250,000	250,000
State of Alaska Loan Proceeds	5,859,918	12,000,000	9,000,000
Bond/Other Loan Proceeds	11,500,000	8,500,000	57,000,000
Miscellaneous Non-Operating Revenues	4,615	-	-
Interest Received	698,937	630,000	600,000
Changes in Assets and Liabilities	(3,329,143)	2,315,231	(18,353,172)
Total Sources of Cash Funds	**46,637,996**	**56,065,303**	**83,907,100**
Uses of Cash Funds			
Capital Construction	25,614,412	29,450,600	29,407,100
Debt Principal Payment	9,850,718	11,024,000	11,696,000
Debt Interest Payments	4,701,368	6,842,000	9,689,000
Transfer to Escrow Account	-	1,200,000	-
MUSA	7,991,023	8,524,750	8,834,000
Total Uses of Cash Funds	**48,157,521**	**57,041,350**	**59,626,100**
Net Increase (Decrease) in Cash Funds	(1,519,525)	(976,047)	24,281,000
Cash Balance, January 1	40,565,572	39,046,047	38,070,000
Cash Balance, December 31	**39,046,047**	**38,070,000**	**62,351,000**
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	34,355,454	34,316,000	32,004,000
Construction Cash	4,452,254	3,502,000	30,095,000
Operating Fund Investment & Customer Deposits	238,339	252,000	252,000
Cash Balance, December 31	**39,046,047**	**38,070,000**	**62,351,000**

** This budgetary presentation does not include the effects of implementing Governmental Accounting Standards Board Statement No. 68, Accounting and Financial Reporting for Pensions and thus the revenues and expenses presented in this schedule differ from AWWU's GAAP basis financial statements.*

Anchorage Wastewater Utility
8 Year Summary

($ in thousands)

DRAFT

Financial Overview	2017 Actuals	2018 Proforma	2019 Proposed	2020	2021	2022	2023	2024
				Forecast				
Revenues	56,236	57,190	62,825	66,005	70,635	75,445	79,225	81,895
Expenses and Transfers	46,289	50,765	57,240	60,490	62,370	67,790	69,560	71,640
Net Income (Loss) - Regulatory	**9,947**	**6,425**	**5,585**	**5,515**	**8,265**	**7,655**	**9,665**	**10,255**
Dividend to General Government	-	-	-	-	-	-	-	-
Increase in Net Assets	**9,947**	**6,425**	**5,585**	**5,515**	**8,265**	**7,655**	**9,665**	**10,255**
Budgeted Positions*	295	295	297	297	297	297	297	297
Capital Improvement Program	33,650	36,362	36,655	36,025	37,000	36,890	37,315	38,565
New Debt	6,680	21,000	56,500	10,800	11,100	112,100	11,200	11,600
Net Capital Assets (12/31)	409,495	428,622	445,536	460,958	477,009	492,439	507,667	549,705
Net Position (12/31)	96,473	102,897	107,955	113,470	121,735	129,390	139,055	149,310
Operating Cash	29,135	26,820	26,407	24,802	26,096	26,309	26,271	27,116
Construction Cash Pool	3,139	3,394	35,983	21,191	7,254	80,123	48,205	19,434
Restricted Cash	251	250	250	250	250	250	250	250
Total Cash	**32,525**	**30,464**	**62,640**	**46,243**	**33,600**	**106,682**	**74,726**	**46,800**
IGCs - General Government	1,896	2,655	2,275	2,275	2,275	2,275	2,275	2,275
MUSA	6,004	6,241	6,317	6,490	6,730	6,970	7,210	7,440
CCP Borrowings from Gen'l Govt.	-	-	-	-	-	-	-	-
Total Outstanding LT Debt	173,806	185,634	232,310	230,560	228,589	326,992	320,554	313,834
Total Annual Debt Service	9,618	13,395	16,498	18,928	19,358	23,916	27,598	28,012
Debt Service Coverage (Bond)	7.88	3.01	2.53	2.25	2.59	2.09	1.84	1.91
Debt Service Coverage (Total)	2.28	1.44	1.37	1.30	1.44	1.31	1.22	1.25
Debt/Equity Ratio	64 / 36	64 / 36	68 / 32	67 / 33	65 / 35	72 / 28	70 / 30	68 / 32
Rate Change Percent	9.50%	2.50%	9.50%	4.10%	7.40%	6.00%	4.40%	3.90%
Single Family Rate	44.59	45.70	50.04	52.09	55.95	59.30	61.91	64.33
Statistical/Performance Trends								
Number of Accounts	57,273	57,416	57,560	57,704	56,816	56,958	57,100	57,243
Average Treatment (MGD)	28.50	28.57	28.64	28.71	28.79	28.86	28.93	29.00
Miles of Wastewater Lines	759	761	763	765	767	769	770	772

* Workforce Authorized per Budget is for both Water and Wastewater utilities.

Anchorage Wastewater Utility
Statement of Revenues and Expenses

	DRAFT 2017 Actuals	2018 Proforma	2018 Revised	19 v 18 $ Change	2019 Proposed	19 v 18 % Change
Operating Revenue						
Charges for Services	54,600,842	55,750,000	56,120,000	5,230,000	61,350,000	9.3%
Miscellaneous	929,903	940,000	930,000	45,000	975,000	4.8%
Total Operating Revenue	**55,530,745**	**56,690,000**	**57,050,000**	**5,275,000**	**62,325,000**	9.2%
Non Operating Revenue						
Investment Income	680,911	484,280	490,000	-	490,000	0.0%
Other Income	24,326	15,719	10,000	-	10,000	0.0%
Total Non Operating Revenue	**705,237**	**499,999**	**500,000**	**-**	**500,000**	**0.0%**
Total Revenue	**56,235,982**	**57,189,999**	**57,550,000**	**5,275,000**	**62,825,000**	**9.2%**
Operating Expenses						
Labor						
Labor and Benefits	16,434,859	16,757,250	17,193,193	699,158	17,892,351	4.1%
Overtime	621,554	762,066	419,500	-	419,500	0.0%
Total Labor	17,056,413	17,519,316	17,612,693	699,158	18,311,851	4.0%
Non Labor						
Non Labor	10,044,478	12,316,465	13,067,430	789,130	13,856,560	6.0%
Travel	63,338	75,052	90,800	-	90,800	0.0%
Transfers (MUSA and gross receipts)	6,003,654	6,241,150	6,230,000	87,000	6,317,000	1.4%
Depreciation and Amortization	8,802,432	8,801,400	9,570,000	2,925,000	12,495,000	30.6%
Total Non Labor	24,913,902	27,434,067	28,958,230	3,801,130	32,759,360	13.1%
Total Direct Cost	**41,970,315**	**44,953,383**	**46,570,923**	**4,500,288**	**51,071,211**	9.7%
Charges from other departments	1,896,188	2,654,789	2,402,804	(127,250)	2,275,554	-5.3%
Intradepartmental Overheads	-	(645,000)	(516,700)	(300,000)	(816,700)	58.1%
Total Operating Expense	**43,866,503**	**46,963,172**	**48,457,027**	**4,073,038**	**52,530,065**	8.4%
Non Operating Expense						
Interest on bonded debt	1,759,099	3,356,620	3,372,000	2,528,000	5,900,000	75.0%
Amortization of debt expense	(18,549)	(800,091)	100,000	(1,900,000)	(1,800,000)	-1900.0%
Other interest expense	1,611,987	1,825,380	1,810,000	150,000	1,960,000	8.3%
Interest during construction	(929,637)	(580,000)	(580,000)	(770,000)	(1,350,000)	132.8%
Total Non Operating Expense	**2,422,900**	**3,801,909**	**4,702,000**	**8,000**	**4,710,000**	0.2%
Total Expenses (Function Cost)	**46,289,403**	**50,765,081**	**53,159,027**	**4,081,038**	**57,240,065**	7.7%
Net Income	**9,946,579**	**6,424,918**	**4,390,973**	**1,193,962**	**5,584,935**	27.2%
Appropriation						
Total Expenses			**53,159,027**	**4,081,038**	**57,240,065**	
Less: Non Cash items						
Depreciation and amortization			9,570,000	2,925,000	12,495,000	
Amortization of debt expense			100,000	(1,900,000)	(1,800,000)	
Interest during construction			(580,000)	(770,000)	(1,350,000)	
Total Non-Cash			9,090,000	255,000	9,345,000	
Amount to be Appropriated (cash expenses)			**44,069,027**	**3,826,038**	**47,895,065**	

Anchorage Wastewater Utility
Reconciliation from 2018 Revised Budget to 2019 Proposed Budget

	Appropriation	Positions FT	PT	T
2018 Revised Budget	53,159,027	283	1	11
Transfers (to)/from Other Agencies				
- Charges from other departments	(127,250)	-	-	-
Debt Service Charges				
- Interest	8,000	-	-	-
Changes in Existing Programs/Funding for 2019				
- Salary and benefits adjustments	316,158	-	-	-
- Depreciation	2,925,000	-	-	-
- Administrative Overhead	(100,000)	-	-	-
- Facility Rent	26,750	-	-	-
- MUSA	87,000	-	-	-
2019 Continuation Level	**56,294,685**	**283**	**1**	**11**
2019 Proposed Budget Changes				
- Labor - Safety Intern	10,000	-	-	1
- Labor - PCN Upgrade	13,000	-	-	-
- Labor - Pretreatment Compliance Inspector	160,000	1	-	-
- Lockout/Tagout	5,000	-	-	-
- ARC Flash	5,000	-	-	-
- Customer Service Bank Fees	29,750	-	-	-
- Large Diameter Lind Cleaining	160,000	-	-	-
- Radio Network Upgrades	50,000	-	-	-
- Regulatory Lead/Lag Study	25,000	-	-	-
- Meter/MIU Installs	75,000	-	-	-
- Software Maintenance	15,130	-	-	-
- Public Outreach	10,000	-	-	-
- Computer Hardware	60,000	-	-	-
- Mobile,Text,Bill Print Upgrades	20,000	-	-	-
- Major Facility Maintenance	200,000	-	-	-
- Customer Reimbursement for Damages	20,000	-	-	-
- Other Professional Services	87,500	-	-	-
2019 Proposed Budget	**57,240,065**	**284**	**1**	**12**
2019 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(12,495,000)	-	-	-
- Amortization of debt expense	1,800,000	-	-	-
- Interest during construction	1,350,000	-	-	-
2019 Proposed Budget (Appropriation)	**47,895,065**	**284**	**1**	**12**

Workforce Authorized per Budget is for both Water and Wastewater utilities.

Anchorage Wastewater Utility
2019 - 2024 Capital Improvement Program
(in thousands)

Project Category	2019	2020	2021	2022	2023	2024	Total
ADOT-MOA-Emergency	1,000	1,000	716	1,000	1,000	1,000	5,716
Collection System	9,355	18,055	16,964	23,025	22,025	15,525	104,949
Facility Master Plan	-	-	-	-	-	-	-
IT Hardware/Software	2,745	2,740	1,490	1,465	1,440	1,440	11,320
Miscellaneous Equipment	1,100	950	1,100	950	1,100	950	6,150
Other Plant & Facilities	5,000	9,050	10,200	750	750	1,150	26,900
Vehicles	1,055	1,000	1,000	1,000	1,000	1,000	6,055
Wastewater Plant	16,400	3,230	5,530	8,700	10,000	17,500	61,360
Total	**36,655**	**36,025**	**37,000**	**36,890**	**37,315**	**38,565**	**222,450**

Funding Source	2019	2020	2021	2022	2023	2024	Total
Debt	27,655	27,025	28,000	27,890	29,315	30,565	170,450
Equity/Operations	9,000	9,000	9,000	9,000	8,000	8,000	52,000
Total	**36,655**	**36,025**	**37,000**	**36,890**	**37,315**	**38,565**	**222,450**

Anchorage Wastewater Utility
2019 Capital Improvement Budget
(in thousands)

Project Title	Debt *	State/Fed Grant	Equity/ Operations *	Total
ADOT-MOA Emergency				
ADOT-MOA-Emergency - Sewer	-	-	1,000	1,000
ADOT-MOA Emergency	**-**	**-**	**1,000**	**1,000**
Collection System				
D-2-4_Trunk_Improvements	1,250	-	-	1,250
Girdwood I&I	-	-	500	500
Happy_Folker_Rehab-SWR	210	-	-	210
King Street Septage	-	-	100	100
Large Diameter Sewer Manholes	3,100	-	700	3,800
Laurence Court Sewer	200	-	-	200
Plant Oversize and Betterments - Sewer	25	-	-	25
PS 12 Force Mains Gravity Junction Rehab	-	-	1,800	1,800
PS 2 Rehab	1,470	-	-	1,470
Collection System	**6,255**	**-**	**3,100**	**9,355**
IT Hardware/Software				
AMS	-	-	215	215
ArcGIS - MapOptix Replacement	-	-	145	145
ArcGIS - Maximo Interface	-	-	100	100
Customer Information System Enhancements	-	-	850	850
Information Technology Infrastructure	-	-	600	600
Miscellaneous Information Technology Systems	-	-	250	250
Sewer Model Development	-	-	500	500
Water Qual. Mgmt and Environmental Compliance Monitoring	-	-		10
Reporting			10	
Work Management System	-	-	75	75
IT Hardware/Software	**-**	**-**	**2,745**	**2,745**
Miscellaneous Equipment				
Facility Equipment - Sewer	-	-	350	350
SCADA Equipment	-	-	750	750
Miscellaneous Equipment	**-**	**-**	**1,100**	**1,100**
Other Plant & Facilities				
KS Campus Expansion	5,000	-	-	5,000
Other Plant & Facilities	**5,000**	**-**	**-**	**5,000**
Vehicles				
Boiler (8316) Line Truck (94857)	-	-	380	380
Large Diameter Sewer Cleaning Equipment	-	-	300	300
Vehicles - Sewer	-	-	375	375
Vehicles	**-**	**-**	**1,055**	**1,055**
Wastewater Plant				
AWWTF CHP Conversion	500	-	-	500
AWWTF Compressed Process Air Systems Rehab	200	-	-	200
AWWTF Disinfection	500	-	-	500
AWWTF Fog Management Receiving Station	100	-	-	100
AWWTF Raw Sludge Pumps	500	-	-	500

Anchorage Wastewater Utility
2019 Capital Improvement Budget
(in thousands)

Project Title	Debt *	State/Fed Grant	Equity/ Operations *	Total
AWWTF SCADA Communication Improvements	2,000	-	-	2,000
AWWTF Scum Lines	3,200	-	-	3,200
AWWTF Storage	4,000	-	-	4,000
ERWWTF Fac Plan Recommendations	1,500	-	-	1,500
ERWWTF High Pressure Air	70	-	-	70
Facility PLANT - Sewer	730	-	-	730
Girdwood WWTF Upgr & Replacement Ph II	3,100	-	-	3,100
Wastewater Plant	**16,400**	**-**	**-**	**16,400**
Total	**27,655**	**-**	**9,000**	**36,655**

* Debt and Equity/Operations funding amounts by category are estimates and subject to change as actual loans are awarded by the State of Alaska.

Anchorage Wastewater Utility
Statement of Cash Sources and Uses

	DRAFT 2017 Actuals	2018 Proforma	2019 Proposed
Sources of Cash Funds			
Operating Income	17,667,896	15,967,977	15,584,679
Depreciation, net of amortization	8,802,432	8,801,400	12,495,000
Special Assessment Proceeds	328,627	300,000	300,000
State of Alaska Loan Proceeds	2,180,299	8,000,000	11,000,000
Bond/Other Loan Proceeds	4,500,000	13,000,000	63,000,000
Miscellaneous Non-Operating Revenues	24,326	15,719	10,000
Interest Received	680,911	484,280	490,000
Changes in Assets and Liabilities	546,953	1,280,554	(15,714,289)
Total Sources of Cash Funds	**34,731,444**	**47,849,930**	**87,165,390**
Uses of Cash Funds			
Capital Construction	17,700,404	30,049,560	32,910,390
Debt Principal Payment	6,399,810	8,238,000	8,966,000
Debt Interest Payments	3,352,537	4,382,000	6,796,000
Transfer to Escrow Account	-	1,000,000	-
MUSA	6,003,654	6,241,150	6,317,000
Total Uses of Cash Funds	**33,456,405**	**49,910,710**	**54,989,390**
Net Increase (Decrease) in Cash Funds	1,275,039	(2,060,780)	32,176,000
Cash Balance, January 1	31,249,741	32,524,780	30,464,000
Cash Balance, December 31	**32,524,780**	**30,464,000**	**62,640,000**
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	29,134,649	26,820,000	26,407,000
Construction Cash	3,139,387	3,394,000	35,983,000
Operating Fund Investment & Customer Deposits	250,744	250,000	250,000
Cash Balance, December 31	**32,524,780**	**30,464,000**	**62,640,000**

** This budgetary presentation does not include the effects of implementing Governmental Accounting Standards Board Statement No. 68, Accounting and Financial Reporting for Pensions and thus the revenues and expenses presented in this schedule differ from AWWU's GAAP basis financial statements.*

About Anchorage Water & Wastewater

Anchorage Water Utility History

From the first intake of water at Lower Ship Creek, and a few miles of woodstave water lines downtown more than 90 years ago, Anchorage's public water utility has grown into an enterprise with a net plant in service of approximately $531 million that delivers nearly 23 million gallons of water to customers each day. The original water system for Anchorage was installed by the Alaska Railroad in 1917. In 1921, the City purchased the water system and associated water rights from the Alaska Engineering Commission. As the City expanded by annexation, the water system was extended into new areas and independent water systems previously serving the annexed areas were acquired by the City. A 2.6 mile raw water line to Ship Creek was built in 1980 to replace an earlier raw water main originally constructed in 1962 for the Ship Creek Water Treatment Facility (WTF). In the 1950's, an aqueduct was drilled through the mountains north of Anchorage to supply water from Eklutna Lake to the Eklutna hydroelectric power plant along the Knik River. In 1985, AWWU tapped this aqueduct and connected a 7.8 mile long transmission main (intake portal) to provide water from the Lake to the Eklutna Water Treatment Facility. A 22 mile long water transmission main was constructed to distribute the treated water from Eklutna to Chugiak, Eagle River, and on into Anchorage.

Anchorage Wastewater Utility History

The Alaska Engineering Commission first installed sewers in downtown Anchorage in 1916 along the lower bluff near the Alaska Railroad Depot. As Anchorage grew, construction of sewers continued and by the end of World War II, sewers were available to much of the area between Ship Creek and Chester Creek, west of Cordova Street. Greater Anchorage Area Borough (GAAB) was created in 1964, and was granted area wide sewer authority. The last major private sewer utility was acquired by the GAAB in 1972. Investment by the GAAB in the 1970's constructed the J.M. Asplund Wastewater Treatment Facility for Anchorage, the Girdwood Wastewater Treatment Facility and the Eagle River Wastewater Treatment Facility. The wastewater utility is now owned and governed by the Municipality of Anchorage as a result of unification of the City of Anchorage and the GAAB on September 15, 1975. The rivers, creeks and inlets downstream from Anchorage's wastewater treatment facilities are not adversely impacted by treated effluent, which is AWWU's principal measure of success. The Anchorage community benefits from the superior operation of the three wastewater treatment plants that serve its growing population. Anchorage's public wastewater utility has grown into an enterprise with a net plant in service of approximately $390 million.

Governance

AWWU has a seven-member Board of Directors as codified in Anchorage Municipal Code section 4.80.020. The Board is appointed by the Mayor to staggered 3-year terms, with nominees subject to Assembly approval. The Board, by code, makes recommendations to the Mayor, establishes procedures for customer complaints, and recommends changes in code to the Assembly that the Board deems necessary or desirable for the efficient operation of the Utility or for the benefit of its customers. The authority for operation and management of the Utility is under the control of the Mayor. The Board members are very experienced professionals in the fields of law, accounting, engineering, and public health, in addition to 2 at-large citizen members. Regular meetings are held monthly and are open to the public. Board meetings focus on Utility operations and highlights.

Economic Regulation and Accounting
Since 1970, both the Anchorage Water Utility (AWU) and the Anchorage Wastewater Utility (ASU) have been regulated by the Alaska Public Utilities Commission (APUC), which was renamed the Regulatory Commission of Alaska (RCA) on July 1, 1999. AWU and ASU each hold a Certificate of Public Convenience and Necessity for serving portions of the Anchorage Bowl, Eagle River and Girdwood. The RCA must approve all rates and tariffs prior to implementation. They also regulate service areas and service quality. The RCA is composed of five members appointed to six-year staggered terms by the Governor of the State of Alaska and confirmed by the State Legislature.

AWWU is an Enterprise Fund. Enterprise Funds are used to account for operations where costs of providing services to the general public on a continuing basis are financed or recovered primarily through user charges or where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or change in net assets is appropriate for capital maintenance, public policy, management control, accountability or other purposes.

AWWU applies all applicable provisions of the Governmental Accounting Standards Board (GASB) which has authority for setting accounting standards for governmental entities. The accounting records of the Utility conform to the Uniform System of Accounts prescribed by the National Association of Regulatory Utility Commissioners (NARUC). The accrual basis of accounting is used for Enterprise Funds. Revenues are recognized in the accounting period in which they are earned and become measurable. Expenses are recognized in the period incurred, if measurable.

Environmental Regulation
AWU's activities are dictated by a wide variety of environmental regulations administered by the EPA and the Alaska Department of Environmental Conservation (ADEC). Potable water produced by AWU must comply with the regulations promulgated under the Safe Drinking Water Act (SDWA). The SDWA is the main federal law governing the quality of drinking water in the United States. The ADEC has authority (primacy) to administer the SDWA regulations for the EPA. The SDWA sets standards for the chemical and microbial quality of drinking water and establishes requirements for informing the public.

ASU's activities are also dictated by a wide variety of environmental regulations administered by the EPA and the ADEC. All wastewater discharges must comply with the regulations promulgated under the Clean Water Act (CWA). The CWA is the main federal law governing discharges into the waters of the United States. The CWA requires that each treatment facility have a unique National Pollution Discharge Elimination System (NPDES) permit that specifies the discharge limits from each facility for a wide variety of chemical and biological constituents. The ADEC has authority (primacy) to issue and administer the NPDES permits for ASU's Eagle River and Girdwood WWTFs. Authority to issue and administer the 301(h) modification for the Asplund WWTF has been retained by EPA, due to the special conditions of this discharge as outlined in section 301(h) of the CWA. In addition to the CWA laws, ASU's sewage sludge incinerator must also comply with the provisions specified in Title V of the Clean Air Act (CAA). ADEC has primacy for the CAA and administers the permit for EPA.

Failure to comply with the regulations promulgated under the SDWA, CWA and CAA can result in fines and/or compliance orders and criminal charges.

Physical Plant
The John M. Asplund Wastewater Treatment Facility is one of the few facilities in the nation operating as a primary treatment facility under Section 301(h) of the Clean Water Act. The primary treatment provided by this facility removes up to 46% of the biological oxygen demand (BOD) and

80% of the solids from the influent wastewater meeting the criteria necessary for discharge to the marine waters of Cook Inlet.

The smaller Eagle River and Girdwood Wastewater Treatment facilities provide advanced secondary treatment prior to discharge to Eagle River and Glacier Creek respectively. These facilities remove up to 99% of the pollutants from the incoming wastewater prior to discharge.

In 2017, the Asplund Wastewater Treatment Facility treated an average of 26.8 million gallons per day (mgd). The Eagle River Wastewater Treatment Facility treated an average 1.7 mgd and the Girdwood Wastewater Treatment Facility treated 0.4 mgd. The three facilities have a combined design capacity of 61.1 mgd. The wastewater collection system has approximately 759 miles of pipes.

The Asplund Facility, built in 1972, is Alaska's largest wastewater treatment plant. As wastewater treatment technology and the demands of community growth have developed over the last two decades, utility operators and engineers have kept pace. The Asplund plant underwent major renovations in 1982, and expanded and upgraded again in 1989.

A facilities plan update was prepared in 1999. The 1999 facilities plan evaluated the existing condition of the Asplund facility and identified improvements necessary to meet the future needs of the community. The facilities plan identified over $40 million worth of improvements to the solids handling, headworks, administration, laboratory, incineration, and thickening processes and control and power systems. AWWU undertook a majority of the recommended Asplund projects. These projects, along with careful operation, have made Asplund a modern, state-of-the-art treatment facility. In 2014, an updated Facilities plan was prepared for Asplund. The plan recommended over $17M of additional investment in Asplund over ten years' time to rehabilitate and maintain aging infrastructure. A significant portion of those recommendations have been completed since 2014 with more to be completed in 2019. ASU continues to maintain its smaller treatment plants. Additional projects at Eagle River and Girdwood are underway, all designed to replace, rehabilitate and provide for the near-term needs of the areas being serviced.

AWU's three sources of water are Eklutna Lake, Ship Creek and groundwater accessed through a system of wells in the Northern Communities, the Anchorage Bowl and Girdwood Valley. Eklutna Water Treatment Facility and the wells which supply Girdwood are operated year-round and serve as the primary supply sources for the two water systems. The Ship Creek Water Treatment Facility and the remainder of water wells are used to augment the primary water supply as well as provide redundancy to the Eklutna source for Eagle River and the Anchorage Bowl.

Of these sources, the Eklutna Water Treatment Facility (WTF) now provides, on average, 89 percent of total water production for the Northern Communities and the Anchorage Bowl. In Girdwood, where system demand constitutes less than 2 percent of AWWU's total water production, all water produced and distributed is from two wells.

Projects to maintain the surface water plants and AWU's wells are on-going. The purpose of these projects is multiple fold: to rehabilitate and upgrade facilities where equipment has reached the end of its useful life; to automate and increase operational efficiency of facilities; to increase yield from existing well sites; and to meet stricter federal and state regulations regarding water quality.