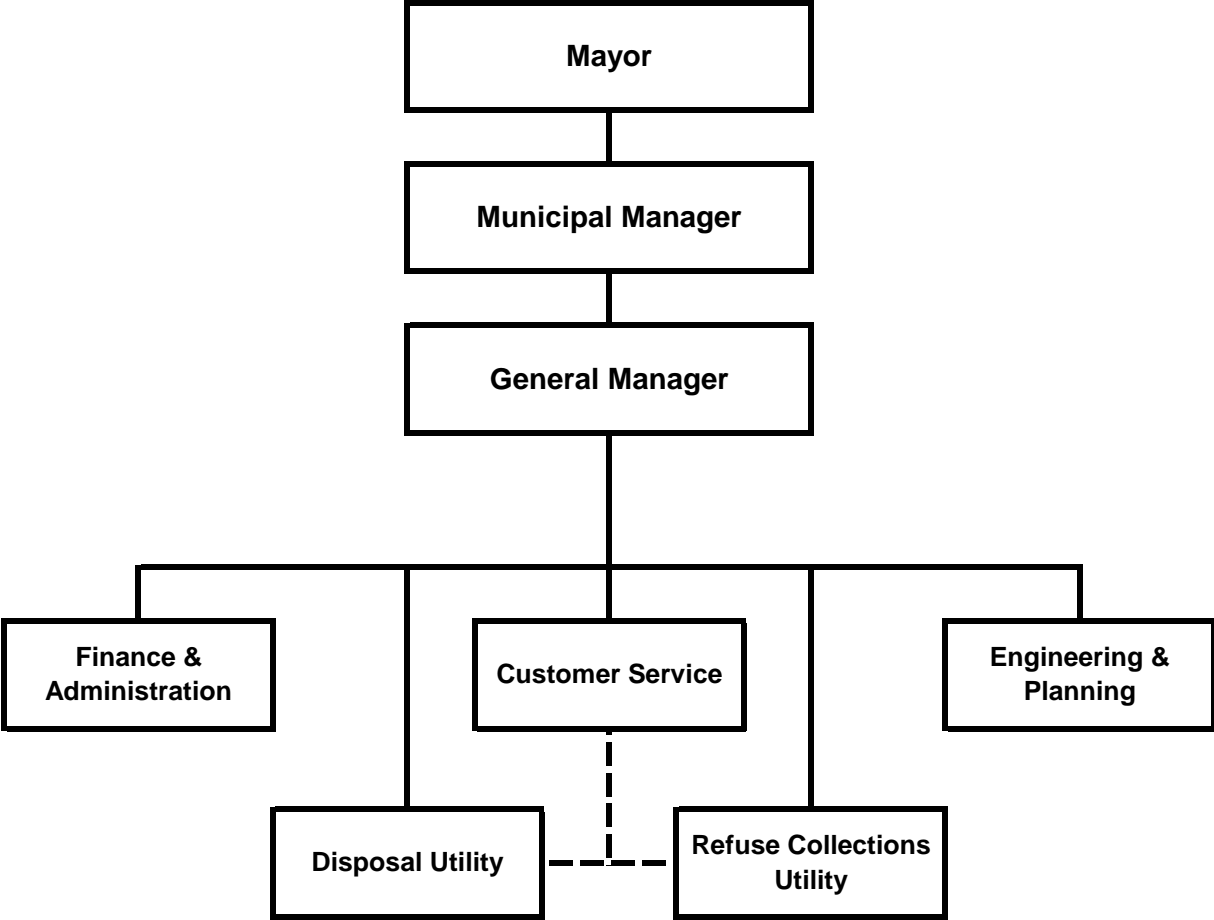


Solid Waste Services



Solid Waste Services Organizational Overview

The Municipality of Anchorage's (MOA) Department of Solid Waste Services (SWS), comprised of the Refuse Collection Utility (RCU) and Solid Waste Disposal Utility (SWDU), is defined as a municipal utility by Anchorage Municipal Code (AMC 26.10.015). The Utilities are self-funded and self-supporting by revenues derived from operations; primarily customer fees for services. No tax dollars are used by SWS operations. By Code and Municipal Charter, each utility is required to operate in accordance with general business standards common to the solid waste industry (Charter Article 16.01) and to provide a reasonable profit in accordance with industry standards (AMC 26.10.060).

To support the RCU and SWDU, SWS has three additional operating divisions: Engineering & Planning; Customer Service; and Administration. Each SWS supervisor reports to the General Manager.

General Manager

The General Manager is responsible for the overall management of SWS. The General Manager oversees operational decisions, with the Solid Waste and Recycling Advisory Commission (SWRAC) providing an overview of strategies, operating plans and budgets, along with offering input on solid waste issues, ordinances and policies and providing recommendations to the Mayor.

Refuse Collection Utility (RCU)

The RCU provides both residential and commercial service to the former City of Anchorage service area. The RCU has converted 99% of its customers to automated operations. There are approximately 150 customers which still receive manual can and bag pickup.

Commercial refuse collection consists of seven routes serviced Monday through Friday and four additional routes serviced on Saturdays. This equates to the servicing of over 5,000 dumpsters on a weekly basis. All commercial refuse collected is unloaded at the Central Transfer Station (CTS).

Residential refuse collection consists of 11 routes serviced Monday through Friday for over 10,000 customers. All residential refuse is collected and unloaded at CTS. Curbside Recycling services over 9,500 customers weekly and is performed by two routes. Mixed paper and cardboard recycling collection is also provided to more than 50 municipal offices on a weekly, bi-weekly, and monthly basis. All recycling is transported and unloaded at the Anchorage Recycling Center (ARC) and pays a recycling tipping fee. Currently the RCU is collecting residential yard waste and food scraps from approximately 250 customers. The RCU plans to offer this service to the entire SWS collection area in 2019.

Twenty-seven full time employees perform all refuse and recycling collection activities. The RCU fleet consists of: ten 40 cubic yard commercial frontload vehicles; nine 27 cubic yard automated sideload vehicles; one 25 cubic yard rear loader; six light-duty support vehicles; and one forklift. RCU vehicle maintenance employees repair and maintain this fleet within a warm storage facility located at the CTS. Residential and Commercial collection operators are members of the local Teamster's union with the vehicle maintenance employees being part of the International Brotherhood of Electrical Workers. All operators are required to participate in a

pre-route safety-operations briefing, and daily Department of Transportation (DOT) required pre-shift and post-shift vehicle inspections.

Solid Waste Disposal Utility (SWDU)

The main function of the SWDU is to dispose of household and commercial refuse generated within the MOA. The refuse is brought to three locations: Girdwood Transfer Station (GTS); CTS; and, the Anchorage Regional Landfill (ARL). The SWDU has an extensive fleet of specialized equipment for the disposal of refuse that is maintained, operated and supported by highly skilled and trained staff.

GTS received over 1,200 tons of refuse in 2017. GTS has a paved area where solid waste is discarded into an enclosure containing a 120 cubic yard trailer for transfer to CTS. GTS accepts used oil and batteries from customers and these items are picked up by SWS's Household Hazardous Waste (HHW) contractors for proper disposal, recycling, or for reuse.

CTS is located between the old and new Seward Highways on 56th Avenue. Solid waste disposed of at CTS is transferred by SWS tractors pulling 120 cubic yard open top trailers to ARL. An average of 800 tons per day of solid waste is transferred from CTS to ARL. CTS also has an HHW disposal location and accepts residential used oil, batteries and appliances that are picked up by contractors for proper disposal, recycling, or for reuse. Customers can drop off small quantities (less than 220 pounds per month) of unregulated hazardous waste which is not allowed to be disposed at ARL. Twenty-five SWS operators perform the various duties and operations associated with CTS.

ARL is located near the intersection of the Glenn Highway and Hiland Road near Eagle River. It is a 275-acre, award-winning, subtitle D landfill that typically processes more than 1,000 tons of refuse daily. Currently, ten cells are constructed, with a total of 12 cells to be developed. Every day solid waste is compacted and then covered with soil using bulldozers. The cover material comes from the excavation of future cells located on-site. Each landfill cell is lined and contains a leachate (water) collection system. Leachate is collected and transported in pipelines at the bottom of the landfill to collection lagoons for pre-treatment by aeration to increase the oxygen levels at ARL. On average, three specially designed leachate tankers transport and dispose of 25 million-gallons per year at the Anchorage Water & Wastewater Utility's Turpin Road dump station. ARL employees are responsible for the daily disposal of all of the MOA's refuse, the excavation and hauling of daily cover material, the installation and maintenance of landfill gas recovery wells and lines, the hauling of leachate, the building and maintaining of roads, snow removal, dust control and equipment repair. Located within a warm storage facility located at ARL, vehicle maintenance employees repair and maintain heavy equipment and SWDU vehicles. A total of 26 SWS operators and mechanics perform the various duties and operations associated with ARL. The main HHW facility is located at ARL and is operated by a contractor that serves the residential and small business customers.

City-wide recycling has increased and trash disposed at the landfill has gone down which has resulted in extending the life of the landfill. Funded from a recycling surcharge, the program promotes recycling and the recycling industry. One full time recycling coordinator answers public inquiries, and, in coordination with private and non-profit partners, prepares educational media (including social media) campaigns and events related to recycling throughout the MOA. The surcharge has funded the development of an expanded paved public recycling drop-off site at the landfill. ARL currently accepts aluminum cans, paper, plastic, and cardboard. The materials are then transported to the Anchorage Recycling Center.

The program also provides support for public space recycling and to the Anchorage School District (ASD) by collecting mixed paper from all their facilities. Recycling within the MOA is further supported through a grant for Christmas tree recycling, and a grant to offset the Port of Anchorage wharfage fees that the ARC pays to ship recyclables out of state. A large, but less visible effort is economic and business development grants. These funds are given to local recycling businesses for developing ideas for reusing materials in-state, such as glass, tires, construction and demolition debris, and organics.

Engineering and Planning

The Engineering and Planning Division consists of one engineer/manager, one civil engineer, and two engineering technicians. The group has the following main tasks:

- Planning, design and construction of new facilities;
- Major facility upgrades and repairs;
- Technical landfill operations;
- Landfill gas (LFG) collection system operation; and,
- Regulatory compliance.

The division is responsible for the planning, design and management of construction activities related to landfill expansion, LFG collection system expansion and maintenance, CTS improvements and landfill closure projects. The division relies on contracted engineering services for major design and construction projects. As the landfill development progresses, engineering efforts will turn more toward closure and reclamation projects such as capping, re-vegetation and storm water management. The current closure cost includes \$57M of closure construction work, and \$28M (both in 2017 dollars) of post closure care costs that will be conducted over a period of 30 years following the closure of ARL.

As SWS facilities age (many are over 30-years old), the division is responsible for the procurement of services for major repair and maintenance activities. These activities include periodic reconstruction of the CTS tipping floor, HVAC systems, paving of roads and work areas at ARL, and rehabilitation of landfill gas and leachate wells and piping systems.

The division provides technical support to the SWDU ARL staff to improve landfill operations and maximize airspace utilization. The division helps re-engineer outer landfill slopes which recovers valuable landfill airspace and regularly monitors waste compaction and daily cover quantities in order to re-evaluate these estimates. The division provides support for planning fill operations, developing access roads, and efficiently mining cover materials from the site. As an example, the landfill crew, in addition to processing solid waste, can also mine gravel for current and future cover operations.

The LFG collection system currently supplies Doyon Utilities (DU) with gas to power a 7-megawatt electrical generating plant which provides power to the Fort Richardson side of Joint Base Elmendorf-Richardson. LFG activities at ARL include daily checks of key operating parameters, as well as routine maintenance of LFG well heads and monitoring equipment. The system currently requires a bi-weekly check and rebalancing of over 68 gas collection points to optimize the efficiency of the gas collection system while maximizing the gas output delivered to DU.

The division is responsible for compliance with environmental regulations at ARL as well as three closed landfill sites. All sites have groundwater monitoring and reporting requirements, as well as solid waste permit compliance relating to operation or post-closure monitoring. The

Merrill Field landfill site has active landfill gas and leachate management systems which have both operational and regulatory reporting requirements. ARL operates under an active Class I landfill operating permit, as well as a Title V Air Quality operating permit, both issued by the Alaska Department of Environmental Conservation (ADEC). In addition to specific operating requirements, these permits require numerous inspections, as well as documentation and reporting requirements. Because ARL accepts asbestos wastes, it is regulated under National Emissions Standards for Hazardous Air Pollutants which requires inspection and documentation of every load of regulated material received. Both ARL and CTS have Storm Water Pollution Prevention Plans approved by ADEC which have regular inspection, monitoring, sampling, and reporting requirements.

Customer Service

The Customer Service Division has two work groups; the Customer Service Administration and Call Center and the Scale House/Cash Booth. One Senior Administrative Officer manages both work groups, totaling 18 employees.

Customer Service Administration and Call Center

This work group is based out of the SWS Administration Building located at 1111 East 56th Avenue. This office is staffed with one Senior Administrative Officer, one Junior Administrative Officer, one Collector, one Code Enforcement Officer and three Account Representative III's. The SWS call center staff answers up to 160 calls per day and also maintains the SWS customer information system, which allows the invoicing of up to 12,350 customers monthly. These customers account for, on average, more than \$2.1M in payments monthly to their accounts.

The SWS Code Enforcement officer ensures compliance within the SWS mandatory service area by actively facilitating corrective action in accordance to AMC's 14, 15, 21.07 and 26; while handling all in-house collections efforts for accounts that are 31 to 90 days past due. Once these accounts reach 90 days past due, they are transferred to the MOA third party collections company for further collective action.

Scale House and Cash Booth

The 12 employees of the Scale House and Cash Booth work group operate both the scale houses and cash booths at CTS, ARL, and GTS. Operating hours and days of operation vary by location, but overall this work group operates 363 days a year, including all MOA holidays except Christmas and New Year's Day. Opening shifts begin as early as 6 A.M. for the staff opening CTS, closers are often on duty until approximately 6 P.M.

This group is the smiling face that greets both the residential and commercial disposal customers as they visit our disposal locations. These employees screen the customer's load prior to disposal, kindly educate many on safe disposal practices, enforce compliance with AMC and State Laws regarding litter prevention and the assessing of fees, and help monitor safety compliance. These team members assist over a quarter of a million customers that visit our facilities each year.

Administration

The Administration division provides support to all SWS employees. It is responsible for key performance indicator monitoring, IT assistance, Safety, Finance and Accounting, Purchasing, Accounts Payable, as well as human resources, labor relations, security, code enforcement, facility maintenance, and vehicle parts inventory functions.

SWS has one position involved in the monitoring and reporting of key performance indicators. This employee also researches, evaluates, and implements existing and emerging technologies when deemed necessary, fiscally responsible, and/or becomes critical to operations.

The SWS Safety Manager ensures that all operations are conducted in a safe manner. The Safety Manager is responsible for compliance with OSHA safety standards by ensuring that the work environment is safe, as well as identifying and mitigating potential hazards for SWS employees and the public long before the hazard becomes an accident statistic. The Safety Manager inspects buildings, projects, equipment, operating practices and working conditions for compliance with various MOA, State and Federal safety codes and regulatory requirements. The Safety Manager coordinates safety programs in training, personal protective equipment, clothing and devices, as well as organizes and conducting seminars on first aid and OSHA required safety training. The Safety Manager prepares reports and makes recommendations for improvement. By analyzing data on accident rates and compensation claims, the Safety Manager develops methods to reduce costs, loss time, and personnel suffering.

Finance and Accounting

The Finance and Accounting section, consisting of four employees, manages the financial matters of SWS, including the accounting for revenues and expenses, the preparation of budgets, asset management, capital expenditures, as well as providing financial reports. One employee is responsible for purchasing and accounts payable providing for the procurement of and the payment for all equipment, supplies, and contracts, in coordination with other MOA departments. Invoices are received, checked, account coded, approved, and entered into SAP for payment. Purchase orders are initiated at SWS: verifying proper account codes and funding, attaching all supporting documentation, obtaining proper department approval through the SAP workflow; many of the purchase orders also go through the MOA Purchasing Department's SAP workflow for final approval. Over 100 SWS timecards are processed each week in the SAP timekeeping and payroll system to ensure proper pay and cost of service coding. Additional administrative staff provide other support duties that include: ordering office supplies; processing travel authorizations; expense reports; incoming and outgoing mail; maintaining files; oversight of recycling and organics programs; providing administrative support to supervisors; and to the SWRAC.

The SWS philosophy is to retain a small staff, while encouraging safety and dedication to a job well done.

Solid Waste Services Business Plan

Mission

Providing safe, efficient and innovative solid waste management for the Municipality of Anchorage (MOA).

Services

The Refuse Collection Utility (RCU) provides garbage and recycling collection to the former City of Anchorage service area, which is approximately 20% of the population of the MOA. Since at least 1952, there has been mandatory service for all customers of the RCU service area. The RCU provides five types of service: commercial dumpster; commercial recycling; automated garbage roll cart service; recycling roll cart service; and, limited can and bag service.

The Solid Waste Disposal Utility (SWDU) serves the entire MOA. The services include the disposal of solid waste, the collection of household hazardous waste, and the promotion of community recycling. Municipal solid waste is received at three transfer stations located within the MOA. Waste generated in the community of Girdwood is transported from the Girdwood Transfer Station (GTS) to the Central Transfer Station (CTS) in Anchorage. All waste from the CTS is transported to the Anchorage Regional Landfill (ARL) for final disposal.

Business Goals and Guiding Principles

- Increase overall customer satisfaction rating.
- Reduce number of missed pick-ups by SWS.
- Reduce the average customer wait time.
- Maximize the usage of landfill has collected for beneficial purposes.
- Decrease the per capita amount of trash disposed at ARL.
- Expand the lifespan of ARL and maximize airspace utilization.
- Fully maximize existing collection and transfer truck routes through the leveraging of technology.
- Reduce time loss accidents and workman compensation claims.
- Create opportunities for employee development via training opportunities.

Strategies to Achieve Goals

- Leverage SWS on-board vehicle computer systems.
- Install web-cams to provide real-time customer wait information.
- Streamline and improve CTS and ARL site traffic patterns.
- Invest in modernizing fleet and fuel technologies.
- Utilize alternative daily cover material and improve waste compaction.
- Communicate more effectively with employees about training opportunities and make them available.
- Work with Doyon Utilities to expand the landfill gas to energy facility or find another beneficial use for the gas.
- Promote the diversion of food waste, yard waste, metals, plastics, paper and cardboard.
- Improve recycling options for businesses and apartment buildings within the SWS service area.
- Standardize recycling outreach and labeling.

Performance Measures to Track Progress in Achieving Goals

- Disposal costs offset by Landfill Gas Revenue.
- Waste to Cover Ratio
- Landfill Closure Data

Refuse Collections & Disposal Utility Solid Waste Services Department

Anchorage: Performance. Value. Results.

Mission

Providing safe, efficient, and innovative solid waste management for the Municipality of Anchorage.

Vision

Advancing solid waste management through continuous improvement and transparent performance.

Values

Providing value to our community through safe, innovative, and sustainable solid waste management.

Core Services

- Provide dumpster service to commercial and multifamily residential customers.
- Provide automated garbage, curbside recycle collection, and disposal to residential customers.
- Provide transfer station and landfill disposal services for the entire community of Anchorage.
- Support and promote energy efficient and sustainable practices for all residents throughout the community.

Accomplishment Goals

- Subsidize Disposal Utility operations with revenue collected from landfill gas sales to keep rates lower for longer periods of time.
- Extend the life of the Anchorage Regional Landfill by increasing the ratio of inbound garbage to dirt placed as daily cover. The less dirt used to cover garbage for means more space available at the landfill.
- Extend the useful life of the Anchorage Regional Landfill as far in the future as possible by improving recycling and operational performance on a continuous basis. The longer the landfill stays open the cheaper the cost to dispose of material in Anchorage is.

Performance Measures

Progress in achieving these goals will be measured by:

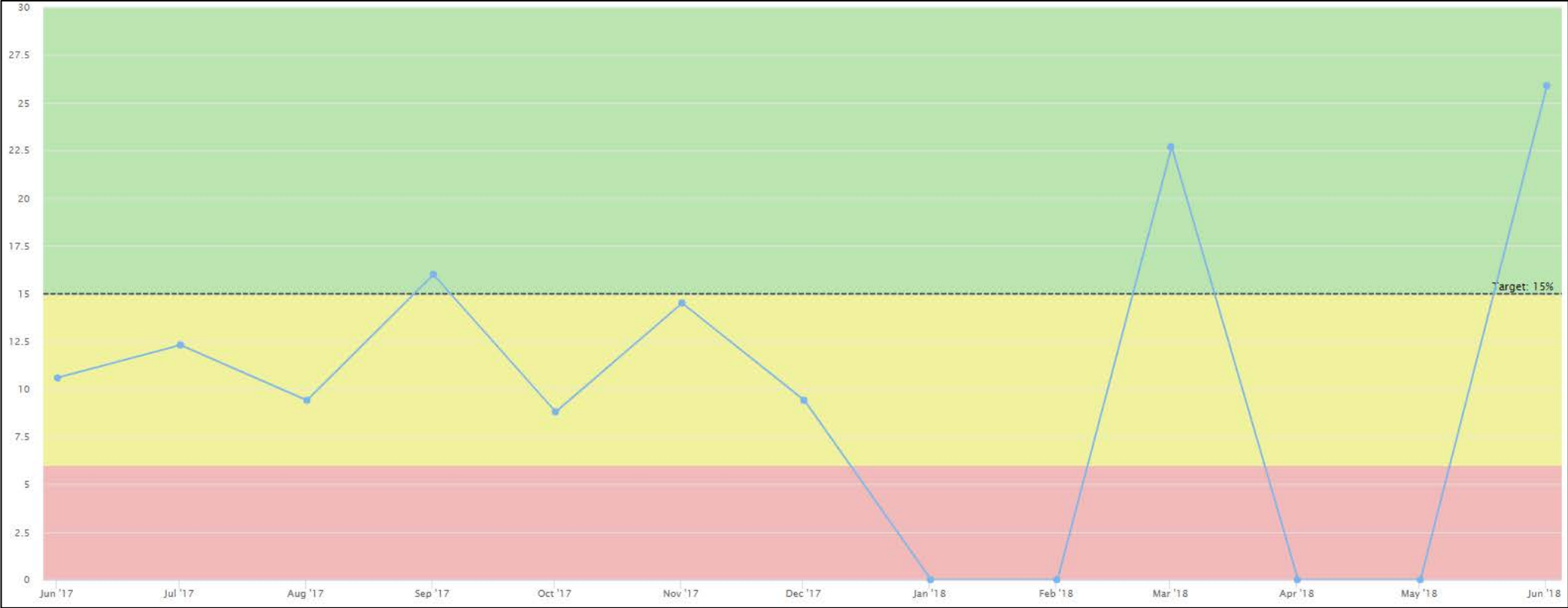
- Landfill Gas Revenue as a percent of Disposal Utility Operations Costs;
- Garbage to Dirt Ratio; and,
- Landfill Closure Date.

The following pages provide actual data which quantify these measures.

For more information on the performance indicators SWS has developed, please visit:

<https://acak.statwindow.com>

Measure #1: Disposal Costs Offset by Landfill Gas Revenue

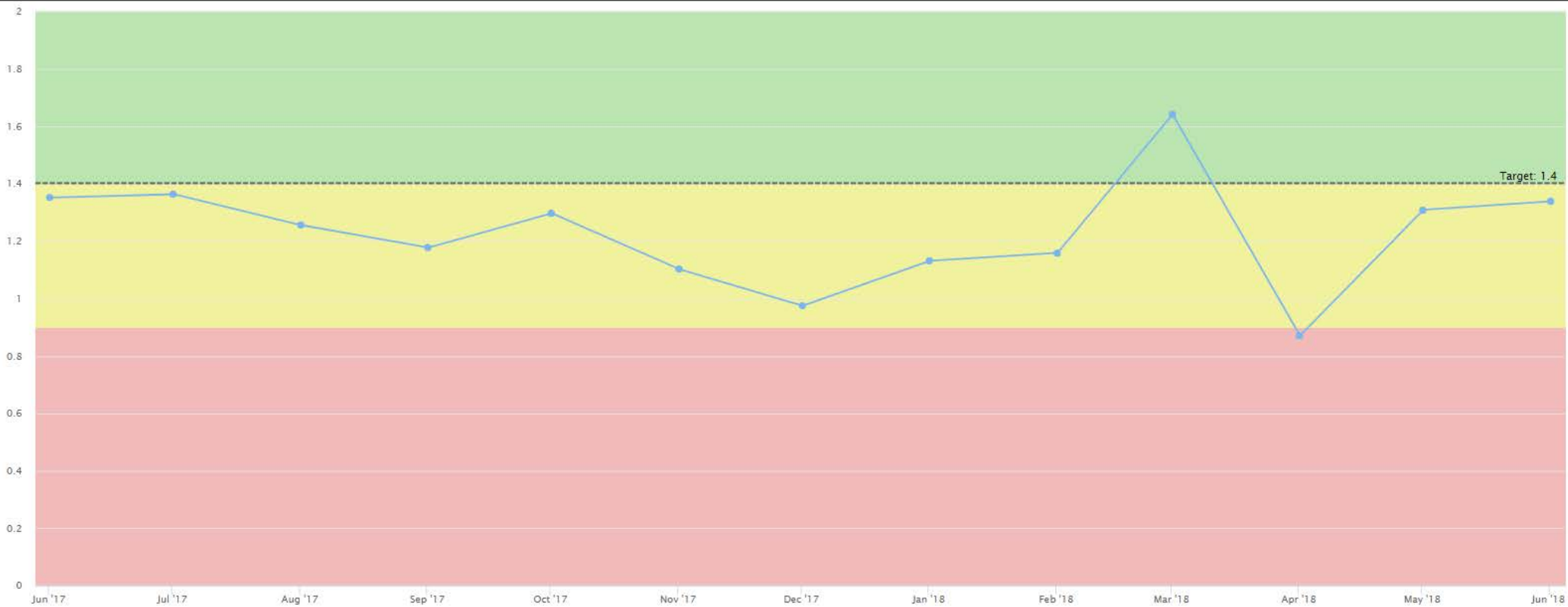


This measure is calculated by dividing the landfill gas revenue by the total disposal costs. SWS has set a target goal of > 15% indicated by the dashed line in the above line graph. This data is given to SWS on a quarterly basis. The months reflecting zero value are months in the current quarter SWS has no data.

**Quarter 2 Data –
Disposal Costs Offset: 26%**

SWS syphons the gas from collected refuse in the landfill. A portion of the gas is sold to Doyon Utilities to provide electricity to the Army side of Joint Base Elmendorf-Richardson. The revenue from selling landfill gas is used to subsidize disposal costs, therefore SWS customer rates are lower.

Measure #2: Waste to Cover Ratio

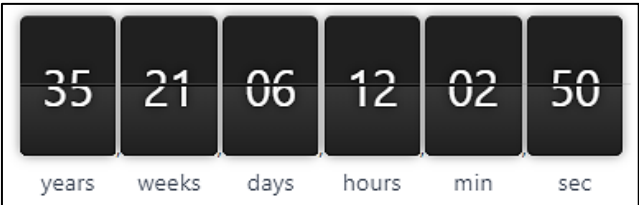
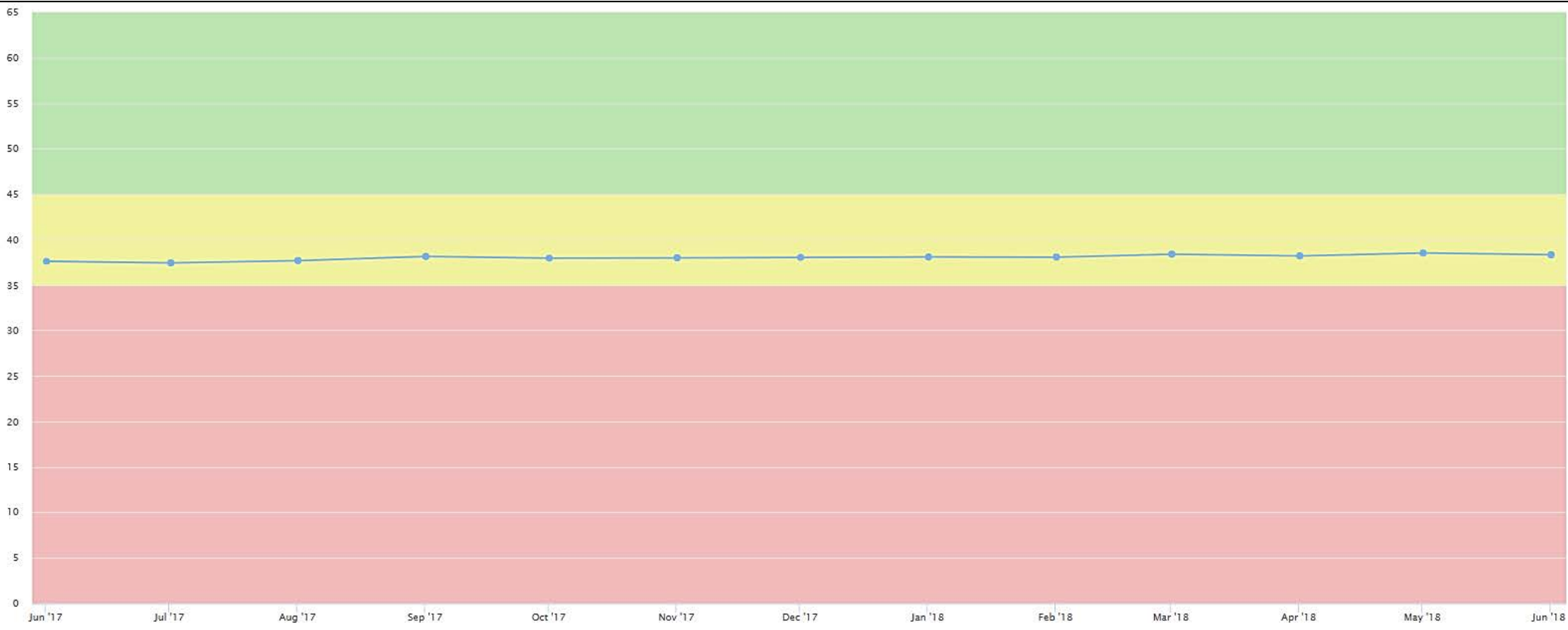


This measure is calculated by dividing the total tons of refuse received at the landfill by the total tons of cover used (including alternative cover.) SWS has set a target goal of 1.4 indicated by the dashed line in the above line graph.

Quarter 2 Data –
April: 0.87
May: 1.31
June: 1.34

Everyday SWS uses gravel or other forms of alternate cover, ranging from wood chips to snow, to cover the garbage. This data is important because SWS has a goal to “Extend the Life of Anchorage Regional Landfill.” The less amount of gravel (or alternative cover) used to cover the refuse, the more space is left and the longer the landfill will be open.

Measure #3: Landfill Closure Date



SWS uses a 12-month average of waste generation and cover used by the landfill to predict the day the landfill will reach full capacity. As public behavior changes, the lower rate of waste generation and less cover used will slowly affect the life of the landfill. Decomposition and compaction are considered in the equation, as well as population growth. SWS derives this data from the most current landfill study.

SWS does not have a target set because this information is continually changing, however SWS has a goal to extend the life of the landfill.

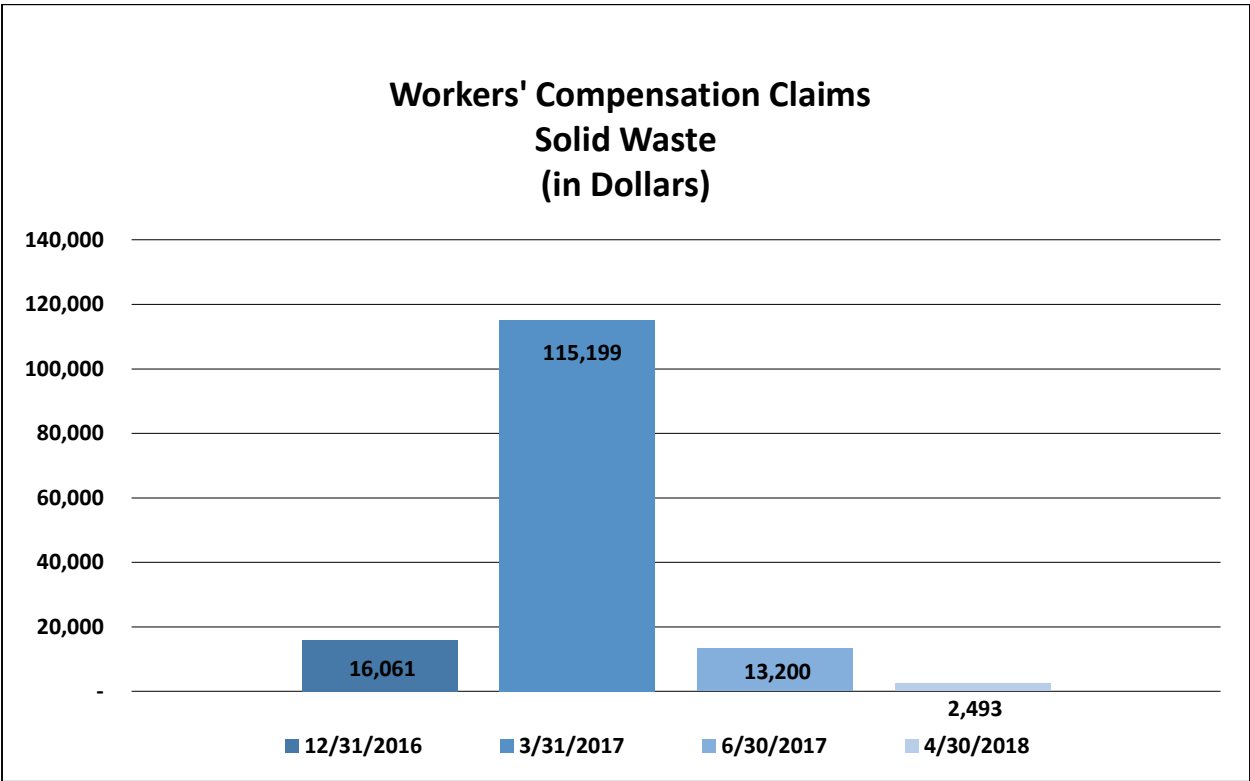
**Quarter 2 Data –
Estimated Year of Closure: 2053**

2053 is quickly approaching. As the year of closure draws near, SWS must think about *how* to continually provide safe, efficient, and innovative solid waste management (i.e.: development of a new landfill). Through fine-tuning public behavior (i.e. recycling), SWS can successfully serve the MOA for many years beyond the estimated date. Landfills are not forever, there is no time waste.

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.



Solid Waste Services Highlights and Future Events

Disposal Utility

In 2019, the Disposal Utility 2019 total budget is projected at \$24,370,593 compared to the 2018 Revised Budget of \$24,021,923 and the 2017 draft of \$23,032,785. The 2019 budget is 1.5% higher than the 2018 Revised Budget. This increase is due to three factors; the MUSA calculation, increase to Interest during Construction, and an increase in debt service.

The three items in the budget that are not appropriated by the Assembly are the non-cash items, depreciation, interest during construction, and landfill closure expenses, totaling \$5,673,479. Depreciation expense is projected at \$4,650,000, interest during construction at \$123,479 and the estimated landfill closure cost is \$900,000. Although the budget appropriation excludes non-cash items, both they are included in the utility's financial statements.

Removing the \$5,673,479 of non-cash items from the total budget of \$24,370,593, results in a 2019 appropriation budget of \$18,697,114.

Total revenue for 2019 is projected at \$23,958,185, compared to the 2018 Revised Budget revenue of \$22,772,605. It is 5% higher, reflecting an anticipated rate increase for 2019. The rate increase is necessary to place the utility in a position to achieve a healthy financial position of 60-90 days of operating cash reserves, 2% of assets in capital reserves and to achieve rate funded system reinvestment goals, all as recommended by the Government Finance Officers' Association.

Net loss of \$412,408 is forecast for 2019. In anticipation of higher expenses, the need to set financial goals to ensure a healthy financial future and capital needs of the utility, additional rate increases are needed annually for the foreseeable future.

The proposed capital budget of \$9,345,000 includes several ARL projects to improve technologies and energy efficiency, as well as funding to commence the design and engineering of a new central transfer station.

Refuse Collection

The Refuse Collection budgeted expenses for 2018 were \$11,876,698 and are proposed to be \$12,483,397 in 2019. The 2017 draft expenses are \$9,859,484. The 2019 budget is 5.11% higher than the 2018 Revised Budget. The increase is due to increased Charges from Other Departments (IGCs), an increase in Debt Service to purchase the new CTS site and minor increases in non labor and personnel costs.

The Refuse Collection 2019 Proposed Budget authorization figure will exclude \$1,017,000 of depreciation, a non-cash item. Although the budget appropriation excludes non-cash items, they are included in the utility's financial statements.

Removing the \$1,017,000 of depreciation from the total budget of \$12,483,397 results in a 2019 appropriation budget of \$11,466,397.

Total revenue for 2019 is projected at \$12,006,250, compared to the 2018 Revised Revenue of \$11,445,000, a 5% increase, reflecting an anticipated rate increase for 2019. The rate increase is necessary to place the utility in a position to achieve a healthy financial position of 60-90 days

of operating cash reserves, 2% assets in capital reserves and to achieve rate funded system reinvestment goals, all as recommended by the Government Finance Officers' Association. In anticipation of higher expenses, the need to set financial goals to ensure a healthy future and capital needs of the utility, additional rate increases are needed annually for the foreseeable future.

The estimated Refuse Collection 2019 Proposed Budgeted net loss is \$477,147 and a capital budget of \$4,310,000 is proposed. Capital expenses include the purchase of a compact front-loader, a side-loader, energy efficiency building improvements, dumpsters and roll-off cans for solid waste customers, and funding to commence the design and engineering of a new administrative facility at the new Central Transfer Station.

Solid Waste Services External Impacts

Disposal

SWS is scheduled to construct two new landfill cells at the ARL before the end of 2020. SWS anticipates using State of Alaska Clean Water Loans with a low interest rate and 20-year term, whenever possible. It is unknown if the program will be funded in the future; if the eligible expenses related to landfill construction will further limit use of these funds for construction; or if SWS will be awarded loans based on the program scoring criteria. Currently, the total cost of the landfill expansion is over \$22M, with potential loan amounts estimated at \$21M to cover those costs.

The Landfill Gas (LFG) to Energy project came into commercial operation in 2013. Revenue to the Solid Waste Disposal Utility (SWDU) derived from the sale of landfill gas to Doyon Utilities (DU) is based upon the purchase price for natural gas as reported by Chugach Electric to the Regulatory Commission of Alaska. Future revenues anticipated from this project will be based upon gas price projections by Chugach Electric and other area utilities. As a result, the actual revenue generated by the LFG project will fluctuate dependent upon market price of natural gas in Southcentral Alaska.

Currently DU Inc. holds an air quality permit which will allow continuous operation of up to six generating units at the LFG power plant on Joint Base Elmendorf-Richardson (JBER). The power plant currently operates five generating units, producing approximately seven (7) megawatts of power. In the summer months, power usage at Fort Richardson decreases below this capacity in off-peak hours. Because of the lower demand, one generating unit is shut down on evenings and weekends, resulting in decreased landfill gas consumption seasonally. Currently, there is no energy integration between the Fort Richardson and Elmendorf sides of JBER. This limits the amount of revenue that can be generated by the project. A project is currently in the final phases of design to interconnect the Fort Richardson and Elmendorf electrical grids.

The current tonnage received at the landfill is dependent upon all refuse providers servicing the MOA. SWS is in the process of implementing a Recycling Education Program as well as recycling incentives. As a result, there is an expected decrease in the amount of refuse received by ARL.

Since 1994 SWS has stored gravel generated from cell development activities on leased land from Fort Richardson. SWS currently has over 4 million-cubic yards of material stored at this location which will all be used in the normal operation of the landfill. An extension of this lease needs to be negotiated prior to expiration in 2019 to ensure continued use of this property until the gravel is expended.

Leachate from the ARL is disposed of to Anchorage Water & Wastewater Utility's (AWWU) wastewater collection system. SWS hauls the leachate from ARL to AWWU's Turpin Street septic hauler station. SWS has hauled over 25 million gallons annually to this facility. The cost for this activity is driven by labor, fuel and vehicle O&M costs as well as AWWU disposal rates, all of which are continuously rising. SWS is in the process of initiating design activities for a pipeline to allow direct discharge to the AWWU system.

ARL and CTS facilities were all constructed in 1987. Consequently, many mechanical, electrical and structural components of these facilities are rapidly approaching or have exceeded their useful lives. Many of these systems are either life safety issues or critical to the continued operation of the facilities. SWS has and will continue to incur significant capital and maintenance costs as these facilities and components are upgraded or replaced. SWS is proposing a plan to construct a new CTS. The new facility will allow SWS to control the destiny of the Disposal and Refuse Collection Utilities through additional space to explore new technologies, and the ability to re-purpose the existing space to meet other growing needs within the Municipality.

Refuse

The warm storage building and Administrative facilities were constructed in 1987. Many mechanical, electrical and structural components of these facilities are rapidly approaching or have exceeded their useful lives. The Refuse Collection Utility (RCU) has congested traffic lanes and delays in disposal of loads due to the outdated design of the CTS. SWS has and will continue to incur significant capital and maintenance costs related to the aging warm-storage and administration buildings. Therefore, SWS is proposing a plan to construct a new CTS, including warm storage and administration facilities. The new facilities will provide space, safety, and a design that will allow for proper care and storage of the collection vehicles, as well as other valuable assets of the utility.

Solid Waste Services Workforce Projections

Division	2017	2018	2019	2020	2021	2022	2023	2024
Refuse Collection	26	26	26	26	26	26	26	26
Disposal	51	49	49	49	49	49	49	49
Administration	20	23	23	23	23	23	23	23
Total Full Time	97	98	98	98	98	98	98	98
Part time/Temp	6	6	6	6	6	6	6	6
Seasonal	7	6	6	6	6	6	6	6
Total Positions	110	110	110	110	110	110	110	110
Total FTE	107.6	105.3	105.3	105.3	105.3	105.3	105.3	105.3

Solid Waste Services - Disposal
8 Year Summary
(\$ in thousands)

Financial Overview	DRAFT							
	2017 Actuals	2018 Proforma	2019 Approved	2020	2021	2022	2023	2024
	Forecast							
Revenues	24,104	22,773	23,958	25,156	26,414	27,734	29,121	30,577
Expenses	23,033	23,726	24,370	24,857	25,603	26,627	27,692	28,523
Net Income (Loss)	1,071	(953)	(412)	299	811	1,107	1,429	2,054
Budgeted Positions	56(83)	54(83)	54(83)	54(83)	54(83)	54(83)	54(83)	54(83)
Capital Improvement Program	5,475	18,376	9,345	18,259	27,227	22,240	8,792	4,999
Bond Sales/ New Debt	-	10,200	1,200	12,147	22,675	19,775	6,600	4,570
Net Plant (12/31)	64,707	78,433	83,128	82,801	114,673	125,793	134,585	139,584
Dividend	1,144	972	750	232	237	242	247	252
Net Assets (12/31)	65,137	64,184	63,772	64,071	64,881	65,988	67,417	69,471
Unrestricted Net Assets	7,885	(1,244)	(9,801)	(15,615)	(19,356)	(20,714)	(21,477)	(19,852)
Future Landfill Closure Liability	33,045	32,897	33,797	34,697	35,597	36,497	37,397	38,297
General /Construction Cash Pool	7,742	4,216	721	(891)	(943)	23,432	25,990	30,409
Landfill Closure Cash Reserve**	32,897	34,197	35,097	35,097	35,623	36,497	37,397	38,297
Total Cash	40,639	38,413	35,818	34,206	34,680	59,929	63,387	68,706

**In 2008, a restricted account to fund landfill closure & post-closure was approved by the MOA Assembly.

IGCs - General Government	2,256	3,631	3,634	3,779	3,931	4,088	4,251	4,421
MUSA	1,155	1,293	1,657	1,242	1,720	1,887	2,019	2,094
Total Outstanding Debt	14,256	22,970	22,683	33,316	54,463	70,742	73,913	74,814
Total Annual Debt Service	1,723	1,747	1,824	1,957	2,203	1,929	1,949	1,964
Debt Coverage	0.62	(0.55)	(0.23)	0.15	0.37	0.57	0.73	1.05
Debt/Equity Ratio	15/67	18/67	24/67	35/67	56/67	1 5/67	1 6/67	1 5/67

Rate Percentage Change (CTS /ARL)

Tipping Fee Rate per Ton (ARL / CTS)	\$58/\$68	\$58/\$68	\$61/\$71	\$64/\$74	\$67/\$77	\$70/\$80	\$74/\$84	\$78/\$88
Pickup Rate per Load	\$16	\$16	\$17	\$18	\$19	\$20	\$21	\$22
Car Rate per Load	\$6	\$6	\$6	\$6	\$6	\$6	\$6	\$6
Proposed Annual Rate Increase			5%	5%	5%	5%	5%	5%

Statistical/Performance Trends

Tons Disposed	310,052	305,000	305,000	305,000	305,000	305,000	305,000	305,000
Vehicle Count	239,840	240,000	240,000	240,000	240,000	240,000	240,000	240,000

Certain actual financial figures above will not match the Comprehensive Annual Financial Report; the CAFR combines Disposal with Administrative and Vehicle Maintenance cost centers.

Solid Waste Services - Disposal

Statement of Revenues and Expenses

	<i>DRAFT</i>					
	2017 Actuals	2018 Proforma	2018 Revised	19 v 18 \$ Change	2019 Approved	19 v 18 % Change
Operating Revenue						
Landfill Disposal Fees	19,087,628	19,220,405	19,220,405	1,201,275	20,421,680	6.2%
Hazardous Waste Fees	274,869	300,000	300,000	18,750	318,750	6.3%
Community Recycling Residential	162,053	165,000	165,000	10,313	175,313	6.3%
Community Recycling Commercial	422,392	410,000	410,000	25,625	435,625	6.3%
Landfill Methane Gas Sales	2,551,915	1,850,000	1,850,000	150,000	2,000,000	8.1%
Recycle Rebate	-	-	-	-	-	0.0%
Reimbursed Costs	234,112	100,000	100,000	-	100,000	0.0%
Unsecured Loads	13,650	15,000	15,000	938	15,938	6.3%
Other	149,195	142,200	142,200	31,325	173,525	22.0%
Total Operating Revenue	22,895,814	22,202,605	22,202,605	1,438,226	23,640,831	6.5%
Non Operating Revenue						
Misc. non-operating Revenue	57,160	20,000	20,000	-	20,000	0.0%
Interest from cash pool	933,459	400,000	400,000	-	400,000	0.0%
Unrealized Gains/Losses	217,238	100,000	100,000	-	100,000	0.0%
Other Property Sales/Disposition of Assets	-	50,000	50,000	-	50,000	0.0%
Capital Contributions/Grant Revenue	-	-	-	-	-	-
Total Non Operating Revenue	1,207,857	570,000	570,000	-	570,000	0.0%
Total Revenue	24,103,671	22,772,605	22,772,605	1,438,226	24,210,831	6.3%
Operating Expenses						
Labor						
Labor and Benefits	5,982,756	5,735,554.86	5,852,607	78,276	5,930,883	1.3%
Overtime	507,026	508,889	540,966	(2,600)	538,366	-0.5%
Total Labor	6,489,782	6,244,444	6,393,574	75,675	6,469,249	1.2%
Non Labor						
Non Labor	7,007,619	5,613,832	5,728,400	(10,248)	5,718,152	-0.2%
Travel	4,639	10,199	15,000	-	15,000	0.0%
Landfill Closure Costs	489,148	1,300,000	1,300,000	(400,000)	900,000	-30.8%
Debt Service	236,137	258,033	260,000	194,000	454,000	74.6%
Depreciation and Amortization	4,249,968	4,523,269	4,650,000	-	4,650,000	0.0%
Dividend Distribution	1,143,934	972,344	750,000	-	750,000	100.0%
MUSA	1,155,471	1,172,803	1,293,560	363,440	1,657,000	28.1%
Total Non Labor	14,286,916	13,850,480	13,996,960	147,192	14,144,152	1.1%
Total Direct Cost	20,776,698	20,094,924	20,390,534	222,867	20,613,401	1.1%
Charges from other departments	2,256,087	3,631,389	3,631,389	2,324	3,633,713	0.1%
Total Operating Expense	23,032,785	23,726,313	24,021,923	225,191	24,247,114	0.9%
Interest During Construction	-	-	-	123,479	123,479	0.0%
Total Non Operating Expense	-	-	-	123,479	123,479	0.0%
Total Expenses (Function Cost)	23,032,785	23,726,313	24,021,923	348,670	24,370,593	1.5%
Net Income	1,070,886	(953,708)	(1,249,317)	1,089,555	(159,762)	-87.2%
Appropriation						
Total Expenses			24,021,923	348,670	24,370,593	
Less: Non Cash items						
Interest during Construction			-	123,479	123,479	
Landfill Care and Closure			1,300,000	(400,000)	900,000	
Depreciation and Amortization			4,650,000	-	4,650,000	
Total Non Cash			5,950,000	(276,521)	5,673,479	
Amount to be Appropriated (Cash Expenses)			18,071,923	625,191	18,697,114	

Solid Waste Services - Disposal Reconciliation from 2018 Revised Budget to 2019 Approved Budget

	Appropriation	Positions		
		FT	PT	T
2018 Revised Budget	24,021,923	49	-	5
Debt Service Charges				
- Interest During Construction	123,479	-	-	-
Changes in Existing Programs/Funding for 2019				
- Salaries and benefits adjustments	75,675	-	-	-
- Reduction to non labor	(10,248)	-	-	-
- Reduction in landfill closure costs	(400,000)	-	-	-
- Increase in debt service	194,000	-	-	-
- Adjust MUSA	363,440	-	-	-
- Charges from Other Departments	2,324	-	-	-
2019 Continuation Level	24,370,593	49	-	5
2019 Proposed Budget Changes				
- None	-	-	-	-
2019 Approved Budget	24,370,593	49	-	5
2019 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(4,650,000)	-	-	-
- Interest During Construction	(123,479)	-	-	-
- Landfill Care and Closure	(900,000)	-	-	-
2019 Approved Budget (Appropriation)	18,697,114	49	-	5

Solid Waste Services - Disposal
2019 - 2024 Capital Improvement Program
(in thousands)

Project Category	2019	2020	2021	2022	2023	2024	Total
Anchorage Regional Landfill Improvements	5,225	9,157	7,375	5,400	1,000	400	28,557
Central Transfer Station Improvements	1,520	3,337	15,612	14,775	6,627	4,569	46,440
Equipment & Vehicles	2,515	5,735	4,210	2,035	1,000	-	15,495
Girdwood Improvements	-	-	-	-	-	-	-
Office Equipment & Technology	85	30	30	30	165	30	370
Total	9,345	18,259	27,227	22,240	8,792	4,999	90,862

Funding Source	2019	2020	2021	2022	2023	2024	Total
Clean Water Loan	-	8,807	7,000	5,000	-	-	20,807
Commercial Loan	-	-	-	-	-	-	-
Equity/Operations	8,145	6,112	4,552	2,465	2,192	429	23,895
Short-Term Borrowing Program	1,200	3,340	15,675	14,775	6,600	4,570	46,160
Total	9,345	18,259	27,227	22,240	8,792	4,999	90,862

Solid Waste Services - Disposal
2019 Capital Improvement Budget
(in thousands)

Project Title	Debt	State/Fed Grant	Equity/ Operations	Total
Annual Additional Gas Wells/Piping	-	-	200	200
Cash Booth Replacement	-	-	100	100
Cell 9 Design	-	-	500	500
Energy Efficiency	-	-	200	200
Energy Efficiency- CTS	-	-	300	300
Engineering Design Contract- ARL	-	-	125	125
Excavator	-	-	675	675
Leachate Force Main Construction	-	-	1,500	1,500
Leachate Pipeline JBER (Design)	-	-	150	150
Leachate Treatment Upgrades	-	-	2,000	2,000
Light Plant-1990-Allmond Bros	-	-	40	40
Main Building Roof Replacement	-	-	225	225
New Transfer Facility Design	1,200	-	-	1,200
Office Equipment (Administration)	-	-	45	45
Provision Cameras	-	-	45	45
Replace 2002 Grader CAT	-	-	610	610
Replace 2004 Cheverolet Trailblazer	-	-	50	50
Replace 2008 Ford F350 4X4 Red Crewcab	-	-	65	65
Replace 2010 & 2014 Trailers (4)	-	-	560	560
Replace 1992 Ford Explorer 4x4	-	-	55	55
Replace 1997 Service Truck Peterbilt	-	-	500	500
Solar Project	-	-	180	180
Wait Time Cameras	-	-	20	20
Total	1,200	-	8,145	9,345

**Solid Waste Services - Disposal Utility
Statement of Cash Sources and Uses**

	<i>DRAFT</i> 2017 Actuals	2018 Proforma	2019 Approved
Sources of Cash Funds			
Operating Income ¹	1,249,182	1,449,472	2,448,592
Depreciation, net of amortization	4,249,968	4,523,269	4,650,000
Amortization of Landfill Liability	489,148	1,300,000	900,000
Interest Received	933,459	400,000	400,000
Loan Proceeds	-	10,200,000	1,200,000
Total Sources of Cash Funds	6,921,757	17,872,741	9,598,592
Uses of Cash Funds			
Capital Construction	1,349,721	18,376,000	9,345,000
Debt Principal Payment	1,486,613	1,486,612	1,356,500
Debt Interest Payments	236,137	258,033	454,000
Landfill Post Closure Cash Reserve Transfer	489,148	1,300,000	900,000
MUSA	1,155,471	1,172,803	1,657,000
Dividend Distribution	1,143,934	972,344	750,000
Total Uses of Cash Funds	5,861,024	23,565,792	14,462,500
Net Increase (Decrease) in Cash Funds	1,060,733	(5,693,051)	(4,863,908)
Cash Balance, January 1	10,054,511	11,115,244	5,422,193
Cash Balance, December 31	11,115,244	5,422,193	558,285
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	3,373,535	1,206,193	(162,715)
Construction Cash	7,741,709	4,216,000	721,000
Cash Balance, December 31	11,115,244	5,422,193	558,285
Landfill Post Closure Cash Reserve	32,897,332	34,197,332	35,097,332

¹ Operating Income less Functional Costs plus Debt Interest, MUSA, and Dividends.

Solid Waste Services - Refuse Collection 8 Year Summary

(\$ in thousands)

Financial Overview	DRAFT							
	2017 Actuals	2018 Proforma	2019 Approved	2020	2021	2022	2023	2024
	Forecast							
Revenues	11,221	11,445	12,006	12,606	13,236	13,898	14,593	15,323
Expenses	9,859	10,782	12,483	12,818	13,202	13,598	14,142	14,708
Net Income (Loss)	1,362	663	(477)	(212)	34	300	451	615
Budgeted Positions	27	27	27	27	27	27	27	27
Capital Improvement Program	1,407	9,185	4,310	4,030	12,278	11,345	5,823	4,441
Bond Sales/STBP	-	6,800	1,100	2,400	11,000	10,000	5,000	4,000
Net Plant (12/31)	4,579	12,664	15,574	18,204	29,082	39,027	43,450	46,491
Dividend	556	583	1,270	734	785	779	794	810
Net Assets (12/31)	4,920	12,705	15,615	18,245	29,123	39,068	43,491	46,532
General/Construction Cash Pool	4,240	2,872	9,299	7,669	6,391	5,046	4,223	3,782
IGCs - General Government	1,843	2,380	2,801	2,857	2,914	2,972	3,032	3,093
MUSA	55	55	59	228	364	488	543	581
Total Outstanding Debt	-	-	76	2,476	13,476	23,476	28,476	32,476
Total Annual Debt Service	-	11	129	144	289	518	681	765
Debt Service Coverage	N/A	N/A	85	85	1,639	1,639	1,639	1,639
Debt/Equity Ratio	0/100	0/100	0	9/67	31/67	40/67	44/67	47/67
Residential Rate per month			\$14.10 - \$36.50 pay as you throw variable residential rates					
Commercial Rate (3Yd-1 per wk)	\$125.00	\$125.00	\$131.25	\$137.81	\$144.70	\$151.94	\$159.54	\$167.52
			5%	5%	5%	5%	5%	5%
Statistical/Performance Trends								
Waste Collected (Tons)	36,747	36,500	36,500	36,500	36,500	36,500	36,500	36,500
Average Residential Services	12,230	12,230	12,230	12,230	12,230	12,230	12,230	12,230
Average Dumpsters Services	4,378	4,378	4,378	4,378	4,378	4,378	4,378	4,378

Solid Waste Services - Refuse Collection Statement of Revenues and Expenses

	<i>DRAFT</i>					
	2017 Actuals	2018 Proforma	2018 Revised	19 v 18 \$ Change	2019 Approved	19 v 18 % Change
Operating Revenue						
Commercial	7,023,931	7,300,000	7,300,000	365,000	7,665,000	5.00%
Residential	3,406,406	3,450,000	3,450,000	172,500	3,622,500	5.00%
Dumpster Container Rental	468,955	475,000	475,000	23,750	498,750	5.00%
Other Collection Revenues	140,930	130,000	130,000	-	130,000	0.00%
Total Operating Revenue	11,040,222	11,355,000	11,355,000	561,250	11,916,250	4.94%
Non Operating Revenue						
Interest from Cash Pool	129,512	80,000	80,000	-	80,000	0.00%
Unrealized Gains & Losses	43,510	-	-	-	-	-
Misc. non-operating Revenue	7,605	10,000	10,000	-	10,000	0.00%
Total Non Operating Revenue	180,627	90,000	90,000	-	90,000	0.00%
Total Revenue	11,220,849	11,445,000	11,445,000	561,250	12,006,250	4.90%
Operating Expenses						
Labor and Benefits						
Labor and Benefits	3,006,830	3,084,179	3,179,566	64,768	3,244,334	2.04%
Overtime	120,545	121,250	125,000	-	125,000	0.00%
Total Labor	3,127,375	3,205,429	3,304,566	64,768	3,369,334	1.96%
Non Labor						
Non Labor	3,302,488	3,545,400	3,732,000	96,000	3,828,000	2.57%
Travel	6,038	7,000	10,000	-	10,000	0.00%
Debt Service	-	10,667	-	129,333	129,333	100.00%
MUSA	55,139	55,000	37,000	22,000	59,000	59.46%
Dividends	555,629	583,410	1,270,000	-	1,270,000	0.00%
Depreciation and Amortization	969,982	994,232	1,017,000	-	1,017,000	0.00%
Total Non Labor	4,889,276	5,195,709	6,066,000	247,333	6,313,333	4.08%
Total Direct Cost	8,016,651	8,401,138	9,370,566	312,101	9,682,667	3.33%
Charges from Other Departments	1,842,833	2,380,825	2,506,132	294,598	2,800,730	11.76%
Total Operating Expense	9,859,484	10,781,963	11,876,698	606,699	12,483,397	5.11%
Non Operating Expense						
Total Non Operating Expense	-	-	-	-	-	0.00%
Total Expenses (Function Cost)	9,859,484	10,781,963	11,876,698	606,699	12,483,397	5.11%
Net Income	1,361,365	663,037	(431,698)	(45,449)	(477,147)	10.53%
Appropriation						
Total Expenses			11,876,698	606,699	12,483,397	
Less: Non Cash items						
Depreciation and Amortization			1,017,000	-	1,017,000	
Total Non-Cash			1,017,000	-	1,017,000	
Amount to be Appropriated (Cash Expenses)			10,859,698	606,699	11,466,397	

Solid Waste Services - Refuse Collection
Reconciliation from 2018 Revised Budget to 2019 Approved Budget

	Appropriation	Positions		
		FT	PT	T
2018 Revised Budget	11,876,698	26	-	1
Debt Service Charges				
- Increase in debt service for Short-Term Borrowing Program (STBP)	129,333	-	-	-
Changes in Existing Programs/Funding for 2019				
- Salary and benefits adjustments	64,768	-	-	-
- Non-Labor Adjustments	96,000	-	-	-
- Adjust MUSA, Gross Receipts, Contributions	22,000	-	-	-
- Charges from other Departments	294,598	-	-	-
2019 Continuation Level	12,483,397	26	-	1
2019 Proposed Budget Changes				
- None	-	-	-	-
2019 Approved Budget	12,483,397	26	-	1
2019 Budget Adjustment for Accounting Transactions (Appropriation)				
- Depreciation and amortization	(1,017,000)	-	-	-
2019 Approved Budget (Appropriation)	11,466,397	26	-	1

Solid Waste Services - Refuse Collection
2019 - 2024 Capital Improvement Program
(in thousands)

Project Category	2019	2020	2021	2022	2023	2024	Total
Building - Construct New CTS	1,100	2,225	10,408	9,850	4,418	3,046	31,047
Building Improvements	380	-	-	-	-	-	380
Containers/Dumpsters/Roll-offs & Lids	590	360	360	360	360	360	2,390
Data Processing	30	30	30	30	30	30	180
Office Equipment	5	5	5	5	5	5	30
Vehicle Replacement	2,205	1,410	1,475	1,100	1,010	1,000	8,200
Total	4,310	4,030	12,278	11,345	5,823	4,441	42,227

Funding Source	2019	2020	2021	2022	2023	2024	Total
Equity/Operations	2,610	1,630	1,278	1,345	823	441	8,127
Short-Term Borrowing Program (STBF)	1,100	2,400	11,000	10,000	5,000	4,000	33,500
State Grants	600	-	-	-	-	-	600
Total	4,310	4,030	12,278	11,345	5,823	4,441	42,227

Solid Waste Services - Refuse Collection
2019 Capital Improvement Budget
(in thousands)

Project Title	Debt	State/Fed Grant	Equity/ Operations	Total
Air Shop Handling Units (Two)	-	-	80	80
Dumpsters & Lids	-	-	350	350
Electric Collection Vehicle	-	600	-	600
Electric Med Duty Vehicle	-	-	275	275
Energy Efficiency Improvements	-	-	300	300
New Transfer Station	1,100	-	-	1,100
Replace 1998 Chevrolet Pick up	-	-	50	50
Replace 2009 ISUZU Stakebed	-	-	60	60
Replace 2011 Automated Curb Tenders (2)	-	-	720	720
Replace Data Processing Equipment	-	-	30	30
Replace Office Equipment	-	-	5	5
Residential Yard Waste Carts	-	-	10	10
Routeware	-	-	230	230
Sideload 12' (2)	-	-	500	500
Total	1,100	600	2,610	4,310

Solid Waste Services - Refuse Collection Statement of Cash Sources and Uses

	<i>DRAFT</i>		
	2017	2018	2019
	Actuals	Proforma	Approved
Sources of Cash Funds			
Operating Income	2,063,751	731,520	1,155,319
Depreciation, net of amortization	969,982	994,232	1,017,000
Interest Received	129,512	80,000	80,000
Misc Non-Operating Revenue	-	10,000	10,000
Loan Proceeds	-	6,800,000	1,100,000
Total Sources of Cash Funds	3,163,245	8,615,752	3,362,319
Uses of Cash Funds			
Capital Construction	1,407,214	9,185,000	4,310,000
MUSA	55,139	55,000	59,000
Dividends	555,629	583,410	1,270,000
Total Uses of Cash Funds	2,017,982	9,823,410	5,639,000
Net Increase (Decrease) in Cash Funds	1,145,263	(1,207,658)	(2,276,681)
Cash Balance, January 1	9,631,612	10,776,875	9,569,217
Cash Balance, December 31	10,776,875	9,569,217	7,292,536
Detail of Cash and Investment Funds			
General Cash Less Customer Deposits	6,537,118	6,697,459	6,613,778
Construction Cash	4,239,758	2,871,758	678,758
Cash Balance, December 31	10,776,876	9,569,217	7,292,536

About Solid Waste Services

The Department of Solid Waste Services (SWS) is composed of two utilities, the Refuse Collections Utility (RCU) and the Solid Waste Disposal Utility (SWDU). The RCU provides refuse collection service to residential and commercial customers in the old “City of Anchorage” Service Area and the SWDU operates three transfer stations and the Anchorage Regional Landfill (ARL) providing affordable and environmentally responsible municipal solid waste disposal services for the entire Municipality of Anchorage (MOA). SWS is divided into three organizations: Refuse Collections; Solid Waste Disposal; and Administration (which is a support organization that fully charges out expenses to both Refuse Collections and Disposal Utilities).

Refuse Collections Utility

History

The RCU was originally a function of the former City of Anchorage Public Works Department. When the City and Borough merged in 1975, the RCU became an enterprise activity of the MOA.

Service

The RCU provides refuse collection to the service area of the former City of Anchorage, which is approximately 20% of the population of the MOA. Since 1952, there has been mandatory service for all occupants of the RCU service area. The RCU has four types of services: commercial dumpsters; automated roll cart service; can and bag service; and curbside recycling. The RCU services over 5,000 dumpsters per week with six daily dumpster routes, and two Saturday routes to serve its commercial and multi-family residential customers.

As a result of an automated trash and recycling collection service that began in the fall of 2009, most SWS residential customers are serviced using automated vehicles and roll carts. In 2017, the final phase of automated collection rollout was completed and the RCU will be servicing eight automated collection routes. Approximately 150 commercial customers remain on can/bag service.

Regulation

The fees charged by the RCU are overseen by the Anchorage Municipal Assembly. The RCU is granted the exclusive right to collect solid waste within its defined service area by a Certificate of Public Convenience and Necessity which is issued by the Regulatory Commission of Alaska.

Environmental Mandates

Although there is no specific state or federal regulations governing refuse collection, the RCU must comply with a number of mandated regulations. These regulations include, but are not limited to: the Federal Clean Air Act; the Clean Water Act; and, the Occupational Safety and Health Administration. These regulations have and will continue to impact the economics and operations of the RCU.

Physical Plant

The RCU's truck fleet assets include:

- 11 commercial refuse collection vehicles;
- 10 residential refuse and recycling vehicles (automated and can/bag); 8 automated / 2 Tomcats
- One rear load vehicle for MOA paper collection and recycling; and,

- 7 support vehicles (General Foreman Vehicle, Refuse Collections Leadman Vehicle, Expeditor Vehicle, Mechanics' Truck, 1 ton tilt Flatbed with lift gate, Box Van, and a 2 ton Flatbed)

Currently, there is an average of 24,773 roll-carts and 1,977 dumpsters in service. The RCU maintains a 27,000 square foot building that contains vehicle maintenance, warm storage space, and administrative offices and it is located at the Central Transfer Station (CTS).

Future Planning Efforts

In December 2016 the RCU began utilizing an Automated Refuse Route Management System (ARRMS) to provide real time route information and GPS vehicle locations to make customer service and operations more efficient and cost effective. Specifically, this system provides real-time information to management and customer service staff such as: photo-documented waste containers that are overfull; not placed on curbside; out of compliance in some manner; a method for drivers to document extra charges; provide automated communication between refuse collection vehicles and the back office systems; provide updated route information to refuse collection vehicle operators; track vehicle progress on route; integrate with SWS existing billing system; and provide moving map displays for drivers that show customer and navigation information.

Solid Waste Disposal Utility

History

Municipal solid waste disposal was originally a function of the City Public Works Department, which operated the city landfill at Merrill Field. Under unification, the MOA acquired responsibility for five waste disposal sites from Peters Creek to Girdwood. The SWDU was formed to operate and maintain these sites, while managing solid waste disposal matters throughout the MOA. The five sites were ultimately closed and waste disposal was consolidated at ARL. ARL, is an award winning, state-of-the-art, fully engineered landfill. The facility was opened in 1987 and is the only operating municipal solid waste landfill within the MOA.

Service

The SWDU serves the entire MOA. The services include the disposal of solid waste and collection of household hazardous waste. Municipal solid waste is received at three transfer stations located within MOA. The waste is then transported by the SWDU to ARL for final disposal.

The ARL has a total land area of approximately 275-acres and is being developed in phases called cells. Currently, cells 1 through 7, 8a, 8b, 10 - 12 have been constructed. There are two remaining cells that will begin development in about 2020 with preliminary design starting in 2019. ARL is projected to have a total capacity in excess of 45.1 million cubic yards and should reach its capacity in 2050, dependent upon population growth, waste compaction, diversion of more recyclables and construction activities. In 2017, approximately 308,000 tons were deposited in ARL, which represents approximately 22,000 tons less than in 2016. The decrease aligns with the expectations set forth in 2016. SWDU currently expects an average of approximately 300,000 tons in 2018 and 2019.

The transfer stations located at Girdwood, midtown Anchorage (CTS), and ARL allow the SWDU to reduce traffic flow to the landfill and restrict access to the working face. CTS receives the largest amount of solid waste, having received over 222,000 tons in 2017 from almost

161,000 customers. This facility has an operating capacity of 1,600 tons per day. The 2017 quantity was 1,578 tons less than 2016, which was higher due to major construction projects causing inflation in the amount disposed for that year. The SWDU operates a fleet of 29 transfer tractor and trailers that transport the solid waste from CTS with a capacity of 120 cubic yards each.

The SWDU is responsible for post closure care and monitoring of former landfill sites at Merrill Field, Peters Creek (Loretta French Park), and International Airport Road (Javier de la Vega Park). At each of these sites, SWS must perform annual groundwater and landfill gas (LFG) migration monitoring. The SDWU operates an active LFG collection system at Merrill Field to mitigate migration of LFG to commercial buildings constructed along Merrill Field Drive. The SWDU also operates and maintains a leachate collection system along 15th Avenue to mitigate potential migration of groundwater contaminants to the Chester Creek system. Since no closure funds were ever designated for these sites, all post closure care activities must be funded out of the SDWU's annual operating budget.

The SWDU operates a 6,000 square foot hazardous waste collection facility built in 1989 at ARL. Through 2017, the facility has collected nearly 24 million pounds of hazardous waste that otherwise may have been improperly disposed of at ARL, the storm drain system, or citizens' backyards.

Household hazardous waste can be dropped off at CTS (on Tuesday, Thursday and Saturday) or the Hazardous Waste Facility located at ARL (Tuesday through Saturday). The hazardous waste is then handled by a contractor that sorts and processes the waste into proper containers. Hazardous products are shipped out of state to federally approved hazardous waste disposal sites. Other materials are rendered inert and landfilled, processed locally, or recycled. Anchorage residents bring household items such as paints, cleaners, and solvents to Reuse Centers at CTS or at ARL. The items are then stocked for other Anchorage residents to take home for reuse on household projects. SWS is also exploring the option of using waste oil collected from collection and transfer vehicles to use as fuel in heaters that will provide heat for warm storage locations at CTS and ARL.

Regulation

The SWDU is not economically regulated by any non-municipal agencies but is overseen by the Anchorage Municipal Assembly. SDWU operates under numerous permits and many EPA regulations. ARL is operated under a Solid Waste operating permit issued by the Alaska Department of Environmental Conservation (ADEC). This permit must be renewed every five years. ARL construction and certain operations must comply with the EPA Resource Conservation and Recovery Act (RCRA) subtitle D. The facility is also regulated under a Title V air emissions operating permit issued by ADEC. SWDU operates under two permits from AWWU for industrial water discharge, one for disposal of leachate from ARL and one for discharge of leachate contaminated groundwater at Merrill Field. ARL has permits from the U.S. Department of Fish and Wildlife and the Alaska Department of Fish and Game for bird management.

Environmental Mandates

SWDU must operate under, and comply with, numerous environmental mandates. These mandates have a significant economic impact on the cost of operations and construction for the Utility. The main environmental mandates that have a significant impact on the SWDU are RCRA subtitle D, the Clean Air Act, New Source Performance Standards (NSPS), the Clean Water Act, SARA Title 3 (Super Fund), NESAP (asbestos), and NPDES (storm water

discharge). In 2010, EPA added greenhouse gas monitoring and reporting requirements that affect both active and closed landfill sites. It is projected that the environmental mandates regarding operating and constructing a landfill will become even more stringent in the future.

Physical Plant

The SWDU's assets include:

Anchorage Regional Landfill

- 275 acres, estimated to last through the year 2050.
- 45.1 million cubic yard capacity.
- Phased construction of cells lasting four to five years each.
- Ten of the 12 landfill cells are constructed.
- Located on municipal land.
- Scale house and a 22,000 square-foot shop with an adjoining storage facility.
- Heavy equipment fleet: dozers, loaders, dump trucks, water truck, leachate trucks, tankers, lube trucks, grader, excavator and solid waste compactor.
- Two leachate storage and treatment lagoons with a 2.9 million gallon capacity.
- Gas collection facility with 700 square foot blower and flare station with a 2,000 cubic feet per minute capacity enclosed flare.
- Gas processing facility processes gas to fuel quality and transports it by pipeline to Doyon Utility's power generation system to produce electricity on adjacent military lands. MOA is currently in a 20-year agreement with Doyon, in which Doyon will generate electricity from methane gas to sell to military customers on Joint Base Elmendorf Richardson (JBER).

Three transfer stations provide intermediate disposal, easy access for public

- Cash booths at Girdwood, CTS, and the ARL public site.
- Two scale houses, one each at CTS and ARL.
- 29 transfer tractor and trailers haul from stations to landfill.

Hazardous waste management

- 6,000 square foot collection facility for household hazardous waste.

Merrill Field

- LFG collection system and leachate/groundwater collection system.

Future Planning Efforts

Future projects include:

- Development of remaining cells (cell 8c and 9) will occur by 2020 with an estimated cost of \$22.3 million.
- Slope closure and storm water run-off development is on-going.
- Expansion of gas collection system into cells 10, 11 and 12 by 2020.
- Construction of pipeline to mitigate growing expense of hauling leachate.
- Master Plan is in the process of being completed.
- First strategic plan has been completed and is continuously being updated based off of new goals and strategies as developed by SWS staff.
- CTS Upgrade and Expansion to a new site.