

SOLID WASTE DIVISION ANNUAL REPORT 2018



King County

Department of
Natural Resources and Parks
Solid Waste Division

Per King County Code Sections
10.14.080 And 10.24.020



Contents

Message from the Director	1
Waste Prevention and Recycling	2
Transfer Stations	4
Cedar Hills Regional Landfill	5
Equity and Social Justice	7
Planning	8
2019 Outlook	8

*Alternative Formats On Request
206-477-4466 • TTY Relay: 711*

Message from the Director



Pat D. McLaughlin

Welcome to the 2018 King County Solid Waste Division Annual Report. As I review our highlights and major achievements from the past year, I can't help but be proud of our work and the high level of service we continue to provide to our customers, partners and stakeholders. Every day, about 400 Solid Waste Division employees arrive at work ready to take on the day's challenges and be better than we were the day before.

Whether it's our transfer station operators working to help our customers sort and properly dispose of their garbage and recycling, the truck drivers who transfer that waste for final disposal to the Cedar Hills Regional Landfill, or our program and project managers working to develop new and innovative programs to enhance recycling, I am consistently amazed at the value these employees bring to our organization.

Solid waste management is an ever-evolving business, and 2018 is perfect example of that. Early in the year, we instituted a new rule requiring our self-haul customers to recycle certain materials rather than just throw them away. Our region is renowned for its commitment to recycling, and we were not surprised to see our customers embrace this new rule and help us recycle more.

At the same time, our industry was dealt a blow when the Chinese government announced it would no longer allow certain materials to be sent there for recycling processing. Even though this ban only applied to about 14 percent of all recyclable materials (mostly mixed paper and some plastics), recycling markets were placed under duress. Many wondered how we would recover from this unexpected change.

Rather than continue to wonder, we acted. Shortly after the announcement was made, King County formed a coalition of city partners and stakeholders to develop the Responsible Recycling Task Force. This Task Force sought to understand exactly how China's ban was impacting recycling markets at home and abroad, and how we could respond. As the Task Force embarked on its journey, we focused our communication efforts to help re-educate the public on how to "recycle right".

The past year also saw improvements at the Cedar Hills Regional Landfill. New equipment helped us increase the rate of compaction, allowing us to maximize available space in the landfill. Division gas technicians worked to improve the quality of landfill gas collected and delivered to onsite partner - Bio Energy Washington, which purifies the gas and delivers it to Puget Sound Energy for use as a renewable energy source.

To stay ahead in this dynamic industry, we know how vital it is to have good, long-range planning in place so we can always be prepared for what comes next. That is why 2018 was largely devoted to seeing through completion and submittal of the *Comprehensive Solid Waste Management Plan*. This far-reaching plan looks ahead six to 20 years, and will help guide the division as we seek to enhance recycling throughout the region, continue to provide necessary transfer and disposal services to all areas of King County, and choose the most environmentally responsible and cost effective garbage disposal option.

It is a great privilege to serve people who care about our shared environment and who believe in our mission. Our work from this past year could not have been possible without the support of our customers, partnering cities, advisory committees, our valued employees, the King County Executive, and the King County Council.

Together, we will continue to build on past successes while always looking ahead for new opportunities and meeting the challenges that come next.

A handwritten signature in blue ink that reads "Pat D. McLaughlin". The signature is stylized and cursive.

Waste Prevention and Recycling

Whether it's fostering the next generation of environmental stewards, encouraging customers to recycle more and recycle right, or working to divert recyclable materials away from the landfill, the Solid Waste Division is committed to enhancing waste prevention and recycling in King County.

New Rule Helps Increase Recycling

In early 2018, the division established a new rule to cut waste and reduce the amount of easily recyclable or compostable materials brought to the landfill. The rule requires self-haul customers who bring their waste to King County transfer stations and drop boxes to recycle cardboard, scrap metal, yard waste and clean wood at facilities where those materials can be recycled. While customers are encouraged to separate these materials before arriving at a facility, the division makes it easy for customers to sort these materials at the facility by providing designated containers near customer unloading areas. Since there is no charge to recycle cardboard and scrap metal, and the fee to recycle yard waste and clean wood is 52 percent lower than the garbage fee, customers are able to save money by keeping these materials separate from garbage.

In 2018, the division collected 32,175 tons of recyclable material at its facilities, a 12.5 percent increase compared to 2017. Yard waste was the most-recycled item with 15,927 tons collected. The increase in recycling tonnage collected can be attributed to the new recycling rule.

Recycling More and Recycling Right

In response to new rules China put in place that restrict the amount and types of collected recyclables that can be sent there for processing, King County brought together cities, garbage and recycling collection companies, and others to establish the "Responsible Recycling Task Force." The Task Force sought to identify common ground for advancing recycling and to ensure the long-term strength of regional recycling.

One of the first actions taken by the Task Force was the creation of a "Recycle Right" campaign to help the public be as effective as possible when recycling. Key components of the campaign include making sure recyclable material is always empty, clean and dry; and checking with city or collection company guidelines about which materials are recyclable and which are garbage.

Training the Next Generation of Environmental Heroes

The Green Schools program works with King County schools and school districts to teach students how to recycle right and recycle more. In 2018, a record 245 schools received recycling assistance. In those schools, more than 151,000 students had the opportunity to learn about resource conservation, and overall garbage amounts decreased while recycling increased at participating schools.



Requiring customers to recycle certain materials helped lead to an increase in recycling in 2018.



Keeping recycling empty, clean and dry is the best way to recycle right.

The program also began a new food rescue initiative at participating schools. This initiative lets students place uneaten, unopened and packaged foods from the school lunch program on share tables where other students can help themselves. After lunch, the leftover unopened items are placed in school refrigerators in School Food Share bins that are collected weekly by a nonprofit for distribution to community members in need. The Issaquah and Mercer Island school districts participated in the new initiative, and nearly 13,000 pounds of food and drinks were rescued for distribution to community members in need.

Construction and Demolition Waste Recycling

Construction and demolition waste (C&D) makes up one-third of the solid waste generated in the county. King County requires that readily recyclable C&D materials (metal, cardboard, wood, concrete, asphalt, brick and drywall) be recycled, which furthers the division's Zero Waste and carbon emissions reduction efforts. In 2018, the division added an additional C&D recycling facility to the privately managed locations that manage C&D, bringing the total number of approved facilities to fourteen. The division's C&D management program is funded by a fee that applies only to C&D that is landfilled, which further incentivizes recycling. Approximately 198,000 tons of waste C&D was disposed in 2018, generating fees of approximately \$841,000. Due to a delay in reporting by the Washington State Department of Ecology the most recent year's C&D recycling data for King County are not yet available.

The division contracts with the King County Sheriff's Office to assist in enforcing the C&D recycling regulations. A King County Sheriff Detective visits jobsites to surveil management of C&D and also monitors compliance at the designated C&D management facilities. In 2018, Sheriff's Office support transitioned from a dedicated officer to overtime support. This was a result of a shortage of available officers and the need to prioritize public safety services over regulatory support. Division staff and contractors have filled in the gap in enforcement efforts. Initial enforcement actions focus on education rather than fines to inform the construction industry of the need to send C&D to designated processing facilities. When potential violations are noted, immediate action is taken to inform the responsible party of the County requirements. In 2018, the division also issued amendments to the designated facility agreements for C&D transfer stations to implement the bans on disposal of readily recyclable C&D materials. These facilities have since developed waste ban compliance plans and the division has trained facility personnel in enforcing the bans. Division staff have begun visits to these facilities to monitor compliance with the plans. The division also holds quarterly stakeholder meetings to discuss the enforcement program and other issues impacting C&D recycling and disposal.

Primary and Secondary Recyclables

As specified in the *Final 2001 Comprehensive Solid Waste Management Plan*, materials designated as recyclable are divided into two categories – primary and secondary. Primary recyclables are materials that have a curbside collection program available throughout most of King County. Secondary recyclables are materials currently not collected in most curbside programs, but which have recycling options and markets.



The Green Schools program helps the Solid Waste Division train the next generation of environmental heroes.

Primary Recyclables

- Newspaper
- Cardboard
- High-grade office paper
- Computer paper
- Polycoated paperboard
- Mixed paper (may include paper grades listed above)
- Plastic containers #1 through #7, excluding #6 polystyrene
- Yard waste (including woody materials less than 3 inches in diameter)
- Food scraps and food-soiled paper
- Glass containers
- Tin cans (steel cans)
- Aluminum cans
- Ferrous and non-ferrous metals (subject to size limitations)

Secondary Recyclables

- All other single-resin plastics not included as primary recyclables
- Electronics
- Textiles
- Photographic films
- Toner/ink cartridges
- Reusable household and office goods
- Fluorescent lamps
- High-intensity halide lamps
- Plate glass
- Tires
- Batteries
- Fats and oils
- Porcelain
- Appliances
- Carpet and pads
- Bulky yard waste
- Untreated wood
- Land-clearing debris
- Reusable building materials
- Used oil and oil filters
- Anti-freeze
- Gypsum

Transfer Stations

Providing customers with safe, efficient and responsible waste disposal and transfer is a key service of the Solid Waste Division. In 2018, the division continued its work to modernize its transfer system, while receiving accolades for its most recently completed recycling and transfer station.



The new Factoria Recycling and Transfer Station received numerous awards in 2018.

Factoria Recycling and Transfer Station Cited with Numerous Awards

In late 2017, the division's newest facility, the Factoria Recycling and Transfer Station, began operating in Bellevue. The new facility replaced an aging and outdated facility, and brought new recycling, waste and household hazardous waste disposal services to the area. Additionally, the facility improved efficiency through waste compaction that decreased truck trips to and from the site, reducing greenhouse gas emissions. It was certified as Leadership in Energy and Environmental Design - Gold by the U.S. Green Building Council. The designation was earned for the facility's sustainable design, use of recycled content building materials, rainwater harvesting, efficient energy and water use, and more.

With all its new features, it was no surprise that the station received numerous awards from local, national and international waste management and engineering organizations. The facility received eight awards, including the Gold Excellence Award from the Solid Waste Association of North America, and the Best Project Award from the American Council of Engineering Companies.

New South County and Recycling Transfer Station

After providing making a siting decision on where to construct a new South County Recycling and Transfer Station in 2017, the division spent 2018 on preliminary design of the new facility. The South County Recycling and Transfer Station will replace the outdated Algona Transfer Station and will include services the current station is unable to provide, such as recycling, yard waste and household hazardous waste disposal, and make these services more accessible and convenient for south county residents.

In 2018, the division held open houses so that the public could learn about the new facility and provide its comments, and established a design advisory group that consisted of members of the community to ensure the facility was built with the community in mind.



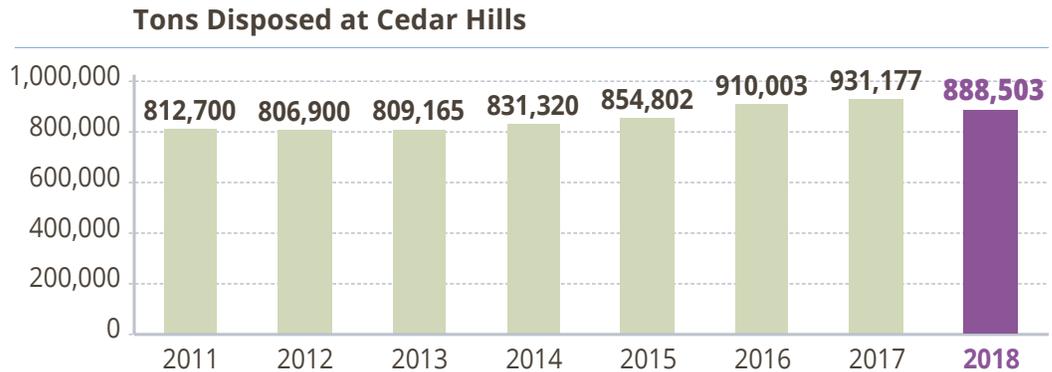
A new South County Recycling and Transfer Station will replace the aging and outdated Algona Transfer Station.

Cedar Hills Regional Landfill

The Cedar Hills Regional Landfill has been in operation since the 1960s and is the last operating landfill in King County. Every day, more than a hundred trucks deliver tons of garbage to the landfill for final disposal. Area 7 is the current active area, with the rest of the 920 acres devoted to administrative facilities and closed, reclaimed landfill areas. An onsite gas processing facility operated by Bio Energy Washington (BEW) collects landfill gas and purifies it so it can be sold as a renewable energy source to Puget Sound Energy (PSE).

Disposal Amounts

In 2018, 888,503 tons of garbage were disposed of at the Cedar Hills Regional Landfill, a decrease of about 5 percent compared to 2017. The division's recent ordinances that require construction and demolition debris to be sent to specific facilities for recycling is a reason for the decrease in tonnage.



Constructing a New Disposal Area

Work continued on constructing a new disposal area, Area 8, at the Cedar Hills Regional Landfill. A total of 1.8 million cubic yards of soil were excavated to make room for the new area, and environmental controls, including liners and gas collection pipes, were installed. The division expects Area 8 will begin receiving waste in 2019.

Improving Landfill Operations

After providing decades of service, the blowers powering the landfill gas collection system at the Cedar Hills Regional Landfill required replacement. A failure of this system would result in the venting of methane to the atmosphere. While not toxic, methane is a potent greenhouse gas and such venting would work directly against the division's climate neutrality objectives, and result in the loss of revenue to the division. The methane generated by the landfill is sold to BEW for processing into pipeline quality renewable natural gas (RNG). The new blowers will ensure protection of the environment at the landfill for decades to come.

Replacing the blowers at the landfill was not the only improvement made to the landfill's gas collection system.

This system operates on a vacuum, pulling landfill gas into the collection system. Sometimes nitrogen can be pulled into the system, causing the BEW facility to operate less efficiently as it expends more energy to produce quality gas. To prevent nitrogen infiltration, the division aggressively optimized the system by adjusting valves at more than



The new disposal area at the Cedar Hills Regional Landfill saw major constructing in 2018.



750 pipeline wellheads and accelerated the connection of gas collection pipes to areas that had recently received waste. These efforts resulted in less nitrogen infiltrating the system, meaning the gas received by BEW was of higher quality, could be purified more efficiently and delivered more quickly.

Waste-to-Energy at the Cedar Hills Regional Landfill Provides Revenue

The division earned \$3.2 million from gas it delivered to BEW in 2017 and estimates it will receive \$3 million in revenue from gas it will deliver to BEW in 2018.

The RNG from the Cedar Hills Regional Landfill, processed by BEW, displaces fossil fuel-based natural gas in a wide variety of industrial applications from transportation to power generation.

The division partners with PSE to market the renewable attributes associated with some of these uses. Renewal energy markets are highly volatile, but were strongly favorable to the division in 2017 generating \$4.8 million; the division estimates that less favorable market conditions in 2018 will generate \$3.5 million for these renewable attributes.

In 2018, the Solid Waste Division optimized the gas collection system at the Cedar Hills Regional Landfill to improve the quality of landfill gas sent to BEW for processing.



The onsite Bio Energy Washington facility processes landfill gas into a renewable energy source.

Equity and Social Justice

Following the lead of King County and Executive Dow Constantine, the division is committed to advancing equity and social justice for both its employees and customers.

New Solid Waste Disposal Rates and a Lift for Low-income Customers

In September 2018, the King County Council gave its unanimous support for the division to make a modest increase to its solid waste disposal fees. The minimum fee for self-haulers visiting a King County recycling and solid waste transfer facility will increase from \$24.25 to \$25.25 beginning Jan. 1, 2019. The typical (one-can) single-family curbside customer can expect their monthly bill to increase by about \$0.34 per month.

To ensure equitable services to all of its customers, the division received approval to establish Cleanup LIFT. This program provides a \$12 discount to customers who bring their garbage and recycling to a King County facility, and who show their ProviderOne, Electronic Benefits Transfer ORCA LIFT cards. An estimated 300,000 customers will be able to take advantage of this new program. The Cleanup LIFT program will take effect on Jan. 1, 2019.



The Cleanup LIFT provides a \$12 discount to customers who bring their garbage and recycling to a King County facility, and who show their ProviderOne, EBT or ORCA LIFT cards.

Empowering Employees

Without a strong vision, it's difficult for employees to know how to advance the goals of Equity and Social Justice (ESJ) Initiative. That's why the division set out to create its own pro-equity vision. But truly engaging the entire workforce presented a challenge.

The division's 280 Operations employees are dispersed throughout King County at 10 different locations with limited access to email and the ability to engage.

The division decided to meet employees where they work by holding 12 visioning discussions, bringing in a relief crew so employees could focus on crafting the vision. Operations employees also volunteered to be trained as trainers, tailoring ESJ trainings for Operations employees and adding ESJ components to existing mandatory training events.

This equitable approach led to engaging with all 280 of the division's Operations employees, increasing ESJ training participation from 2 percent to 85 percent, and developing an ESJ vision with input from the entire division workforce (more than 400 employees) that states: *"The Solid Waste Division respects and provides equitable services and opportunities for all."*



Transfer station employee helping customer unload.

Planning

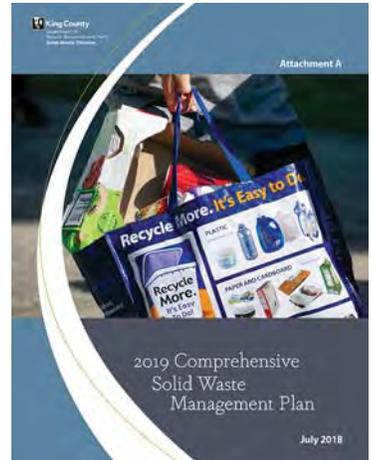
In 2018, the division continued its work on the *Comprehensive Solid Waste Management Plan*. This Plan is a far-reaching document that looks at how the County will manage solid waste and recycling for the next six to 20 years. It was developed in partnership with the division's partnering cities and two advisory committees.

While the Plan covers all aspects of the division's services and operations, it specifically sought answers on three priorities: achieving a 70 percent recycling rate, providing transfer services in northeast King County, and managing long-term garbage disposal.

Through robust public engagement that included in-person and digital open houses, a 60-day public comment period and constant communication with partners and stakeholders, the division was able to include the public in this important decision making process.

After reviewing the Plan, King County Executive Dow Constantine recommended the division provide a "menu" of recycling actions cities can take to enhance recycling in their jurisdictions; construct a new recycling and transfer station in northeast King County; and maximize capacity at the Cedar Hills Regional Landfill.

With these recommendations in place, the division sent the Plan to the King County Council for review. The division hopes the *Comprehensive Solid Waste Management Plan* will be adopted by the King County Council, its 37 city partners and the Washington State Department of Ecology in 2019.



The Comprehensive Solid Waste Management Plan is a far-reaching document that looks at how the County will manage solid waste and recycling for the next six to 20 years.

2019 Outlook

Looking ahead to 2019, the division will continue to strive for excellence in waste prevention, resource recovery and waste disposal.

With its preliminary work completed, the Responsible Recycling Task Force will continue to work with King County and local jurisdictions to implement recommended actions to improve recycling in the region. These actions include removing problematic, non-readily recyclable materials from curbside recycling bins, proposing recycling-focused legislation and furthering outreach and messaging on how the public can keep recycling right.

Throughout 2019, the division will continue to seek public input on design features of the new South County Recycling and Transfer Station. An online open house and survey will launch in early 2019 to fully engage the surrounding communities. The new facility is expected to open to the public in late 2023.

The new Area 8 disposal cell at the Cedar Hills Regional Landfill will begin accepting waste in mid-2019.

Pending approval from the King County Council, partnering cities and the Washington State Department of Ecology, the division will begin work to implement recommendations and actions identified in the *Comprehensive Solid Waste Management Plan*, including expanding transfer services in northeast King County, enhancing regional recycling and planning for the next garbage disposal option.







King County

Department of
Natural Resources and Parks
Solid Waste Division

Waste
Prevention

Resource
Recovery

Waste
Disposal