

**Cedar Hills Regional Landfill  
Spring 2022 Community Meeting  
April 27, 2022  
Via Zoom Presentation**

Facilitator Kathy Hashagen opened the meeting. The format is a webinar and questions can be submitted to the Q&A. Similar questions will be grouped together. Tonight's speakers are:

**Pat McLaughlin, Solid Waste Division Director**  
**Kevin Singer, Bio Energy Washington Plant Manager**  
**Laura Belt, Solid Waste Division Supervising Engineer**  
**Scott Barden, Cedar Hills Landfill Operations Manager**

**Introduction**

Pat welcomed everyone. The goal of this semi-annual meeting is to provide an update on construction, monitoring, and new technologies, to get feedback from members of the community, and to answer questions.

The Cedar Hills Regional Landfill opened in 1965 and is the only remaining active landfill in King County. The landfill property is 920 acres, with 31 acres active. In 2021, an average of 2,400 tons of garbage was taken to the landfill every day, and 70 percent of that material is recyclable, so SWD is looking for ways to divert those recoverable materials from the landfill.

SWD welcomes input from the community. If there are concerns you believe staff are not aware of, our 24/7 phone is **206-477-4466**.

**Bio Energy Washington**

The BEW partnership with SWD was established in 2008. The plant converts about 80 percent of the methane it receives from the landfill to natural gas for beneficial use, delivered to Puget Sound Energy through the Williams pipeline; the remainder is used to power the process.

BEW's three core values are the safety and health of employees and the community, environmental excellence, and continuous improvement. In the last year there have been no injuries and no environmental exceedances. The plant passed its annual emissions testing in November 2021. It achieved 94 percent "uptime" in 2021, producing a daily average of 3,578 MMBtu per day. COVID-19 has had minimal impact on BEW's operations. There are currently no planned modifications to the plant or processes that would impact the community through noise or odor.

### **Construction and Environmental Monitoring**

The final environmental impact statement (EIS) for site development at the landfill was issued on March 22, 2022, and there were no appeals or challenges filed in response. Feedback received from the public on the draft EIS resulted in changes, including additional studies on air quality and noise and clarifications in some of the text. The Division Director will select a Preferred Alternative in the Second Quarter of this year, and then the permitting process will proceed, with more opportunities for public input.

Area 7 Final Closure is proceeding, with nine vertical wells installed, the final cover finished on the sides, and the top to receive final cover this summer.

Reforestation in the westside buffer has been delayed by difficulty in finding a contractor, but SWD hopes to have a reforestation proposal to present to westside neighbors this summer.

Groundwater monitoring is ongoing, and water quality continues to meet or exceed federal drinking-water standards. Work continues to implement recommendations from the Department of Ecology regarding the Perched Zone, where water quality has been affected by past landfilling.

The leachate lagoons will be undergoing improvements in 2023, including double liners, new aeration equipment, and covers. While air-quality testing has shown for odors and air toxics found nothing of concern, the covers would reduce potential odors in response to neighbors' concerns. In the interim, the Odor Boss has been deployed near the lagoons to mitigate potential odor.

Landfill gas (LFG) system improvements are informed by continual evaluation of LFG flow and quality and recently included installation of new vertical wells and pilot-testing of new valves. Emissions monitoring is done through serpentine walks across the landfill; where measured emissions exceed 100 parts per million, the team re-checks in case repair or adjustment is needed.

SWD recently calculated greenhouse gas emissions for 2021 based on modeling methodology required by the U.S. Environmental Protection Agency and the modeling showed a very significant increase in emissions. Under an alternative modeling protocol developed by a solid waste industry consortium that takes into account more site-specific characteristics of the landfill, calculations resulted in a much lower emissions number.

There have been no changes in emissions measured at the landfill nor in our ability to collect landfill gas that would result in the dramatically higher emissions shown in the EPA model. The difference between modeled generation under EPA's model and measured recovery of gas may be due to a significant reduction in actual gas generation. SWD is now evaluating the most effective testing and analysis methods to determine what is driving the LFG reduction.

### **Landfill Operations**

SWD recently purchased a Byers Intelligent Odor Control System, which uses plant-base vapor that bonds with and neutralizes odors. The system is mobile and can be moved to any area on the landfill needed. The system includes a monitoring system that tracks air quality, odor, noise, vibration, and dust in real time.

Progress toward carbon neutrality includes installation of eight new electrical vehicle (EV) charging stations to support continued addition of EVs to the SWD fleet. SWD is also purchasing a zero-emissions tractor trailer that will be the first in its class to be deployed in waste management in the U.S., arriving this summer.

Annual vegetation control is almost underway for the spring and summer, and landfill tours will resume after having been suspended at the beginning of the pandemic.

## Question and Answer Period

### QUESTIONS FOR BEW

***What happens to the 20 percent of methane going to BEW that is not recovered?***

It is sent to the thermal oxidizer and combusted.

***What were the details on the methane-related drone flights?***

The information was provided to King County and should be a matter of public record.

***When you state that the facility has no environmental exceedances, what are some examples of what is measured?***

We have environmental permits for the generator house and the thermal oxidizer; some of the components measured are sulfur oxide, carbon monoxide, particulate matter, formaldehyde, opacity. Opacity measures what you can see through the exhaust of the thermal oxidizer. There is also a measure for volatile organic compounds emitted from the oxidizer. We have no exceedances of those substances. We also monitor weekly for leaks and report to the Puget Sound Clean Air Agency. For example, on volatile organic compounds, measured as hexane, our emissions are 100 times below the permitted level.

***According to the Final Environmental Impact Statement (FEIS) for the Site Development Plan, nighttime noise levels from BEW exceed the permitted levels; what are you doing to mitigate that?***

We are not familiar with that study but can say that acoustical engineers were brought in early on to design noise attenuation on sound-generating parts. We have a permanent sound monitor showing we are below the 39-decibel limit at the nearest residential property line. The measuring point is not the home but the receiving property line.

## QUESTIONS FOR SOLID WASTE DIVISION

### RECYCLING

#### *How are recycling diversion efforts going?*

The majority of our diversion efforts are occurring at the transfer stations, rather than at Cedar Hills, though staff may pull items out in certain situations and divert them to recycling.

#### **Additional information on diversion efforts:**

Resource diversion is now required at all of King County's transfer stations and drop box locations. Items that customers are required to recycle varies depending on the available space and resources of each location, however most of our newer stations require all cardboard, yard waste, scrap metal and clean wood to be sorted out. As our new stations in south and northeast King County open to the public in the coming years, they will also have additional recycling capabilities that are not currently available at our current Algona and Houghton stations. In addition to requiring cardboard, yard waste, scrap metal and clean wood be sorted from trash, a wide variety of other diversion options are available for customers to utilize including recycling for appliances, fluorescent light bulbs, glass, aluminum, bicycles, paper, plastic, textiles, and medical Sharps. Beginning in January 2022, customers are also now required to recycle mattresses at all stations, with the exception of Algona, Renton and Houghton due to space limitations.

#### *Recycling metrics are taken from waste sampling—how often does this occur—quarterly? Yearly?*

We track volume at the transfer stations and from info from the individual haulers. We also do periodic waste-sorting and look at the total volume and types of materials that come in, including details reported by our recycling contractors. King County completes a waste characterization study to identify major categories of materials going to landfill approximately every four years. The County also periodically does characterization studies on recycling and organics. These studies can be found online [here](#).

#### *Why are so many recyclable materials going to the landfill? How long does it take to determine whether diversion programs are working?*

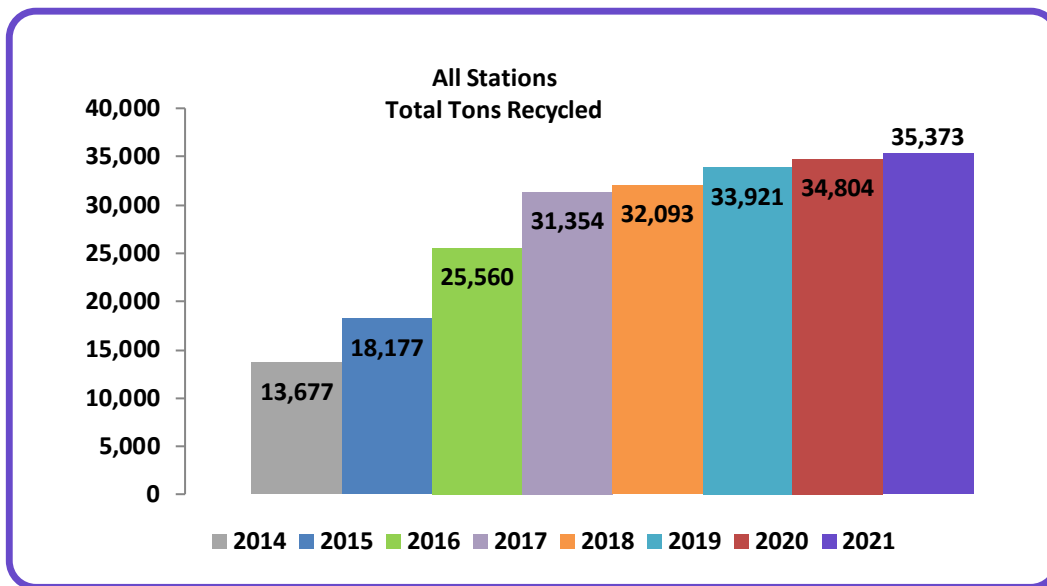
In some cases, there is not an adequate market demand for those materials and market development is needed. In addition, or recycling programs across the county are confusing. We have 39 cities in King County, with 37 of them members of our regional solid waste system, plus our unincorporated areas. Recycling programs across all of those entities are different. That confusion causes people to either give up and just throw materials away or put things in the wrong bin. We are pushing for a more harmonized approach to what recycling looks like in King County, and that should help drive the diversion rate along with policies and partnerships.

We need regional commitments from local leaders in local government and other influencers in various industries. We have to articulate our vision and seek commitments from those who can actually make it happen and create a demand across the county to do things differently. The recycling rate of the last 10 years has been relatively flat, although there has been improvement. This year we are pursuing avenues that are very different from what we have done in the past.

In 2014 SWD launched advanced efforts in initial diversion, recycling efforts, and material recovery, and also added staff dedicated to recycling. We began installing recycling compactors and deploying better mobile equipment at sites for sorting and processing. In 2017-2018 the “Sort-It Out” campaign introduced bans on the disposal of cardboard, scrap Metal, clean wood, and yard waste at SWD stations where recycling services are offered for these materials.

As shown in the figure below, there was a clear increase in tons recycled from 2014-2017 and steady improvement, which SWD attributes to the success of Sort-It-Out and resource-recovery diversion efforts.

### Recycling Improvement through Sort-it-Out



### Who will create the recycling market demand?

Working with local business and local government, we will seek to create markets. Strategies and tactics may include grants and policy changes that will increase processing capacity and reduce contamination. More information on our initiatives can be found at [Re+ \(zero waste\) - King County](#)

### Will data on diversion be available before the 2026 Comp Plan update?

Yes, we need to make improvements now or we will be looking at a million tons of waste going into a new facility yearly. We must see measurable commitments and real diversion to avoid the prospect of one million tons. We are to work with a company to process 1,000 tons of our refuse and sort it for maximum recovery of materials. They have reported capabilities of 60% resource recovery. We will receive a report that will include data on the content and the materials recovered from our waste stream.

## **CEDAR HILLS OPERATIONAL LIFESPAN AND LONG-TERM DISPOSAL OPTIONS**

### ***Who will make the decision on which Site Development Plan alternative will be implemented?***

Division Director Pat McLaughlin will make the decision.

### ***When will Cedar Hills be shut down and where is the garbage going after it is shut down?***

We don't know when the landfill will be shut down. Currently, our direction from the Council and our regional city partners is to maximize its capacity, which we are doing by developing the final refuse cell, Area 9, and diverting materials such as food waste. Seventy percent of what goes into the landfill is recyclable and should be going back into the economy. The resources of greatest interest to us for diversion are organic materials, which also generate the most odor. The better we do at diversion, the less activity there will be at the landfill, including traffic.

When the landfill reaches capacity, we will need to find another disposal method, and it will not be at Cedar Hills or at a landfill in King County. If we were to choose an alternative disposal solution today, we would have to use our current diversion rate, which is 56 percent, and would have to assume the next disposal system has a capacity to handle 800,000 to a million tons of garbage per year. If we focus on diversion we have more choices, and our options could be more affordable with less material to dispose of. We have diverted construction and demolition waste from the landfill and Cedar Grove is handling the food and yard waste. Where other materials go, such as plastic, is largely dependent on the market for recyclables, so we are exploring new technologies that will give us options for these types of materials.

### ***The County has looked at alternatives to landfilling—how are new studies different?***

Our work right now is looking at different factors that will impact our planning for future refuse needs, such as what are the possible capacity needs that we will have. If we are able to reduce the million-tons-per-year of refuse that we currently have to something closer to 300,000 tons, that will change our approach dramatically. Technology to handle reclaim reusables from waste streams is evolving; property values have changed – all of these factors can change our approach and what will work best, so we are continuing to look at those.

We are starting the process now of updating the Comprehensive Solid Waste Plan, which will include the decision on the next long-term disposal method.

## **CEDAR HILLS OPERATIONS**

***Can you provide more details on the perched zone? What kind of contamination is there and what has been the progress?***

The perched zone has been under study for a long time. We have put together a draft remediation, investigation, and feasibility study with some recommended actions that we shared with the Department of Ecology. They asked for some actions to be added and they would cost more than the budget we have for our existing projects, so we have a new project starting this year. In the meantime, we made adjustments to the gas system and added some new wells. We are seeing slow, steady improvement. There were some compounds present which were determined to be associated with landfill gas from the landfill area nearby.

***Why were valves on the landfill gas wells replaced; what was wrong with the old ones?***

There was not anything wrong with the older valves, however, the new ones allow us to make finer-tuned adjustments to the wells. For example, the older valves took about four turns to the valve to go from fully closed to open. The new valves take closer to 20 turns, so there is finer adjustment for better landfill gas quality and flow.

***Why is the County purchasing residential properties around the landfill?***

We are purchasing properties from willing sellers on the east side of the landfill because in the 1980s there was an encroachment on the 1,000-foot buffer between landfill operations and residences and garbage was landfilled there. We have no record of how this decision was made, but the result is that some homes are less than 1,000 feet from buried refuse. Some may just have a very small part of their parcel within less than 1,000 feet, but some are more significantly impacted, and we have made it known that if any of these landowners are interested in selling, we will purchase their property. We will not use Eminent Domain to obtain any of these properties.

***Regarding buffer maintenance, will SWD reach over to maintain our properties?***

No, we work only on our side of the fence; however, if there is a tree or overhanging branch causing a problem, you should feel free to reach out and we can discuss it.

***How is control of eagles at the landfill working?***

The bird control program is working very well, using “gentle hazing” to keep birds off the landfill active area. We have seen a decrease in starlings, ravens, crows, and seagulls.

***Under what circumstances are trucks headed to the landfill authorized to use May Valley Road? Are you looking at GPS?***

May Valley Road is an alternate route for trucks coming from the Renton Transfer Station, especially during heavy traffic hours or if there is a collision blocking traffic. We do not consult GPS, but we do have that capability.

***Regarding the drone flights BEW commissioned, are these in addition to or replacing the surveys the County does for methane detection. Why doesn't the County use drone technology for methane monitoring? Did the drones find leaks that needed repair?***

The County is still doing on-the-ground monitoring for methane emissions. The drone technology BEW commissioned is not approved by regulators to meet the requirements of our air operating permit. The drone flights did show some different results, and we checked them on the ground and did some repairs in response to things we identified. SWD is looking at the possibility of using drones as a diagnostic tool to pinpoint locations on the ground where we should investigate for methane emissions.

***Cedar Grove compost is separate from the Cedar Hills landfill—but is there a public forum similar to this one for the composting facility?***

We are not aware of a meeting just about compost, but there are other community meetings for issues such as landfill operations, composting operations, or other community issues of interest. Councilmember Dunn hosts community meetings for the unincorporated areas.

## **LEACHATE LAGOONS AND ODOR ISSUES**

***What led to covering of the leachate lagoons and the new Intelligent Odor Control system; has it been confirmed that there are odors off the landfill property? How far does the system monitor for odors? Does it monitor compost odors? What is the cost?***

We have investigated whether there were odors going off site that were associated with the leachate lagoons and found that there were not, but we do receive complaints for neighbors believing odor is coming from there. To be a good neighbor we are looking at ways to mitigate that possibility and the covers are a way to do that. The odor control system is also part of being a good neighbor, understanding that odors from the landfill can be carried by wind, and wishing to mitigate that. The system has four electronic “noses,” currently with one located at each corner of Area 8, the active area. The system serves the landfill, not the nearby, privately-run composting facility. Staff are still receiving training on how to read and understand the data we are now able to collect and use the EnviroSuite monitoring and data component that comes with the system. We can also install more “noses,” and the system is very mobile. The main unit cost \$120,000 and the EnviroSuite monitoring unit cost \$85,000.

***Regarding the EnviroSuite system that is part of the Intelligent Odor Control system—will the results be public, and will they be available in real time? How will you know whether there is improvement? What happens to the molecules that get combined with the plant-based vapor?***

The system uses a plant-based odor neutralizer that alters the odor molecules rather than masking them. Onsite odor checks will confirm whether the system is effective—if there are fewer complaints or reports of odor, that will indicate success. The data will be public, but not in real time, due to firewalls and security requirements of King County Information Technology.



***Why did the environmental impact statement for the Site Development Plan use just four dates in June and July for odor sampling when odors are more evident in fall and early spring, in early morning, and in evening?***

This was based on the times the consultant was able to schedule the work, when we could get out there, and when we could get to the laboratory. We did consider the weather and tried to pick days when odor might be more affected by meteorological conditions. We did test at 5:00 a.m. to try to catch odors about which we had received complaints.

***When odors are reported and SWD staff say the source is different from what we say, how can we challenge or fix this issue?***

The report of an odor will be recorded. There may be a difference of opinion, but we take complaints seriously. You can always continue to call when you have a concern or complaint.

***Are SWD staff instructed not to talk to residents near the landfill?***

No, they are not, but are in fact encouraged to talk with our neighbors.

## **QUESTIONS SUBMITTED AHEAD OF MEETING**

***What the leachate improvement project is, why it is needed, and why does it need to be covered?***

The leachate project combines the Leachate Lagoons upgrade project and Leachate Treatment project. The Leachate Lagoons upgrade project objective is to replace and upgrade aging infrastructure, reduce energy demand, and mitigate risks. The scope of work is to reconstruct the lagoons by adding a second liner, replace the aerators, add a cover to the lagoon, and install new electrical panels to modernize the lagoons. The purpose of the lagoon cover is to aid in the control of odors. The Leachate Treatment project primary objective is to implement a treatment system that will reduce arsenic and other metals in the discharged leachate to below the regulatory limits.

***When will the leachate ponds will be covered? What can be done in the interim?***

The estimated schedule for construction of the Leachate Lagoon project, including the cover, is September 2023. In the meantime, staff will continue to provide regular monitoring of the systems, make adjustments as needed, and conduct daily odor checks in the surrounding neighborhoods to ensure no odors are present off site.

***Despite public complaints, why has there been no mitigation performed to protect the environment and communities from its toxins in the air? How often are volatile air tests performed and how extensive?***

Extensive studies over the years and in 2021 have concluded that health effects from any exposure to air toxics from Cedar Hills Regional Landfill are unlikely to cause adverse health effects to site visitors or to the populations in the surrounding communities. Additional information on this topic is presented with analysis from specialists in dispersion modeling and toxicology in [Appendix L of the 2022 FEIS for the Cedar Hills Site Development Plan](#). There is not a

prescribed schedule for performing volatile air tests. However, an extensive volatile air test was performed for the FEIS, and information can be found at the link provided. above

***If the test is not extensive, why not do it to prove to the public it is completely safe?***

The test is extensive.

***Show the most current volatile air leachate pond test report and explain it.***

The most recent air testing in the vicinity of the leachate lagoons was conducted in June and July of 2021, in conjunction with Health Risk Assessment for the FEIS. The results of this testing and the interpretation of the results is found in Appendix L of the FEIS.

***Why is the Odor Boss the mitigation of choice instead of fixing the problem?***

The Odor Boss and newly deployed Intelligent Odor Control system puts odor neutralizers into the air to help with source control odors in the interim until the large projects such as final cover and leachate lagoon upgrades can be completed. These mobile devices that can be move to any location on the landfill as needed.

***If SWD feels that it does, show independent studies and extensive tests to prove this, not marketing from a company.***

Our regulator, the Puget Sound Clean Air Agency, specifically prohibits the use of odor masks or deodorizers. Both the Odor Boss and Intelligent Odor Control System use odor neutralizers and required regulatory approval in advance of deployment.