

BCTT Meeting #4 - Public Comments (Non-Workgroup Members)

From: [Judy Sundquist](#)
To: [Benton County Talks Trash](#)
Subject: Coffin Butte Landfill Expansion - Neighbor comment
Date: Thursday, October 6, 2022 12:11:57 PM

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Hi:

I am a nearby neighbor of the Coffin Butte Landfill and wanted to provide a comment to this committee. First of all, I appreciate the work committee's dedication to encouraging and allowing community's reaction to the expansion of the Coffin Butte Landfill. I wish I could join the meeting in person today but unfortunately I have a conflict. I would like to join you next month if that is possible. In the meantime, here are some of my comments/questions for the record:

I think this is a formidable task to stop and consider what this expansion could mean to the future of the North Corvallis Community. My concerns are about both short-term and long-term (many are difficult to foresee given other colliding/evolving changes) ecological impacts of the expansion. Accepting garbage from over 20 other counties as Oregon's population is growing with ineffective recycling programs and with unrelenting climate change is an obvious formula for disaster and definitely not compatible with quality of life for humans as well as other species in our community. Clearly landfill expansion is a statewide issue that should not be shunted onto one county or one remote community. The analysis to understand the issues at the community level really needs expertise and infrastructure that is more likely available at the State level.

Here are my asks:

1. Since there is a long history of negotiations and actions impacting this matter that requires more analysis, I would like to see a 20 year analysis distilled into a infographic that can be shared with the public to increase our understanding of these changes.
2. Since this is a growing national issue, I would like to see an analysis of how other communities in the last 5-10 years sort through landfill expansion requests and develop their solutions. What are the various solutions available to us?
3. With this being a statewide issue as evidenced by accepting garbage from most of the state, I would like to see our State representatives informed and engaged in this process. I would like them to answer: How can the Department of Environmental Quality or other State department assist with this issue? What do our state legislators think the State of Oregon should do with this looming problem of garbage management in light of a growing population? What are useful metrics to use throughout the State for landfill management?

Thank you for this opportunity to provide input and ask questions.

Judy Sundquist
Neighbor on Arboretum Rd



From: [Doug Pollock](#)
To: [Benton County Talks Trash](#)
Cc: [NICHOLS Darren](#); [Joel Geier](#); [Ken Eklund](#); [AUGEROT Xanthippe](#); [WYSE Nancy](#); [MALONE Patrick](#)
Subject: Fwd: Input for DSAC & SWAC re: Coffin Butte Landfill Operations in 2022
Date: Thursday, October 6, 2022 10:53:15 AM

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Dear Benton County Trash Talks Work Group,

I am forwarding this message I sent yesterday to the DSAC, SWAC, and various community leaders, in case I am unable to attend today's "Trash Talks" meeting. Frankly, the prospect of attending a 4-hour meeting that is part of a bureaucratic system that appears to have a strong underlying agenda is daunting and repulsive to me. The fact that your consultant only interviewed ONE neighbor in doing his initial report spoke volumes about this agenda. I don't trust the process or have much hope that you will come up with any meaningful or objective conclusions. It seems designed to discourage community members from participating in order to attain a predetermined outcome (in favor of landfill expansion). It is a system devised by the "powers that be" in order to support and legitimize their agenda.

Thanks for considering my input,

Doug Pollock
(Soap Creek neighbor)

----- Forwarded message -----

From: Doug Pollock [REDACTED]
Date: Wed, Oct 5, 2022 at 3:02 PM
Subject: Input for DSAC & SWAC re: Coffin Butte Landfill Operations in 2022
To: RAY Linda <linda.ray@co.benton.or.us>
Cc: Ken Eklund [REDACTED], vneqs [REDACTED] REDICK Daniel <daniel.redick@co.benton.or.us>, AUGEROT Xanthippe <xanthippe.augerot@co.benton.or.us>, WYSE Nancy <nancy.wyse@co.benton.or.us>, MALONE Patrick <pat.malone@co.benton.or.us>, <mayorandcouncil@corvallisoregon.gov>

Hi Linda,

Would you please share this input with both DSAC and SWAC, as well as Benton Co. staff who deal with solid waste issues?

Thanks!

Doug Pollock

Dear DSAC and SWAC members,

I have been actively monitoring dumpsters throughout Corvallis for a couple of decades, with a particular focus on those used by the Corvallis School District (CSD). I have done this because of a personal interest in sustainability, and as a member of the Corvallis Eco-School

Network (a group of parents who worked on sustainability issues in our schools). I also worked on environmental issues in my previous career at Hewlett-Packard, where I served as their product steward for inkjet manufacturing. I would like to share some details of my work and the implications for managing solid waste at the Coffin Butte regional landfill. With my decades of hands-on experience, I have a better view than most people when it comes to what's actually going into the landfill.

When I first began my position at HP, they were dumping enormous quantities of defective inkjet cartridges in the landfill. HP was permitted to do this because their site environmental folks argued the plastic cartridge bodies *contained* the ink, thus preventing the chemicals from leaking into the landfill/leachate. I was determined to put a stop to this practice and started developing a recycling process for the scrap cartridges. One of my first steps was to visit the landfill and watch what actually happened to the cartridges. I took a video of a giant dozer crushing huge boxes of them (with ink spraying everywhere) to raise awareness and build support for my recycling process. Soon after word got out about my video, the landfill operators stopped accepting all of HP's waste cartridges. This helped provide the incentive to develop my recycling process (which was eventually expanded worldwide). But for a period of well over a decade, HP dumped substantial quantities of inkjet cartridges in the Coffin Butte landfill. This is part of the landfill's toxic legacy that people should know about.

Over the past ~15 years, I've also documented a large number of violations concerning waste in Corvallis school dumpsters. This includes numerous violations of Oregon's electronic waste law (e.g. a large television in a dumpster at Crescent Valley High School), and various hazardous waste violations (e.g. 5-gallon buckets of paint, refrigerators, fluorescent light tubes, etc.). In many cases, I provided pictures and sent emails to school district staff (including the facilities manager, principals, superintendent and school board members). My offers to meet with the previous superintendent and her staff to help them improve their recycling and waste disposal processes were consistently ignored. Surprisingly, many of the worst waste violations occurred in the dumpster located at the school district facilities office. In my initial discussion with the CSD custodial manager, I was appalled to discover that he wasn't even aware of Oregon's electronic waste law. He also admitted that the Corvallis School District had never developed process documentation governing the disposal of hazardous waste. Ignorance of the law is no defense, especially when you work for a public institution!

Almost without exception, the responses I've received from school district leaders over the years have been exceptionally poor. Their first response is almost always denial: "*That couldn't have come from our school!*". In nearly every case, further investigation showed that, indeed, the material in question did come from the school. Their second response is usually defensive in nature: "*What were you doing looking in our dumpster?!*". The former principal at Mountain View Elementary warned me, "*We just can't have parents looking in dumpsters!*" and implied she could take away my volunteer role managing the school garden. Eventually, the CSD responded to my dumpster complaints by installing locks on all of the dumpsters. They "solved" their waste disposal violations by simply hiding them from the general public.

Earlier this year, I discovered fluorescent light tubes in a large, open dumpster at Crescent Valley High School. The superintendent largely dismissed my email, speculating the bulbs came from a contractor working at the school. I explained this latest incident was part of a pattern of violations I'd documented over the past ~15 years, but neither the superintendent nor

school board seemed to care. Over the following weeks, I documented repeated violations (including more fluorescent tubes in a large glass terrarium that presumably came from a science class). In each case, I filed an official complaint with DEQ about the incidents. Despite asking for a follow-up to my complaints, no one from DEQ contacted me until I called a manager and complained. Despite my substantial follow-up efforts (both with school district leaders and DEQ managers), my complaints were predictably dismissed. The DEQ staff person deferred to the CSD facilities manager who provided the usual excuses and knee-jerk responses. The DEQ person noted, "*The school district is going to reinforce locking of dumpsters at their properties to avoid further illegal dumping... This is the extent of DEQ's evaluation of your complaint. Thank you again for your concern. I will close complaint #22-0653 in DEQ's records.*" I was particularly frustrated by DEQ's dismissive response because I had provided the case manager (Cathy Brown) with a lot of background information (about the CSD's history of waste violations). She was clearly unwilling to ask hard questions and hold the CSD manager accountable for the violations I had documented.

I've also frequently found waste violations in dumpsters on the OSU campus and at a Philomath school. This includes significant quantities of hazardous chemicals (e.g. epoxies, paints and solvents), a refrigerator, and electronic devices. I'd be remiss if I didn't also mention the enormous quantities of perfectly functional items that I've observed in dumpsters at our local schools: chalkboards, paper cutters, file cabinets, furniture, scores of bulletin boards, tables, projectors, books, large volumes of clothing (including brand new school T-shirts), science equipment, video cameras, copper wire, new electrical conduit and receptacles, motors, and hundreds of similar items. All of these items could have been easily diverted to Habitat for Humanity's ReStore or OSU's used equipment auction. The CSD's former sustainability coordinator also reported that an entire container load of chairs from Lincoln Elementary was sent to the landfill earlier this year. He had found an organization that was able to reuse them, but the CSD's facilities manager overruled him and had them crushed and sent to the landfill. Sadly, this is how the CSD has operated for decades.

I wanted to share these stories with you because they help to illustrate a number of very important points:

- **There are enormous opportunities to reduce solid waste, but our community leaders and public institutions seem to lack the political resolve to anything about it.** In many cases, 70-80% of the waste in dumpsters consists of items and materials that could be easily diverted for recycling or reuse.
- As my dumpster finds and the history of HP's inkjet cartridge disposal show, **we must assume there's a considerable amount of hazardous waste going into the landfill on a regular basis.** This hidden, hazardous waste stream has been going on for many decades, without acknowledgement by either the landfill operators, county staff, or DEQ (as far as I'm aware).
- **I believe the waste violations I've documented constitute a breach of the landfill's operating permit with DEQ.** In the most recent case involving the dumpster at CV, the dumpsters were apparently still hauled to the landfill even though I reported they contained fluorescent light tubes (which had not been removed). **Without regular audits to ensure compliance, Republic Services has no idea whether or not they are**

violating their DEQ operating permit.

- **There are considerable procedural and bureaucratic hurdles to reporting violations to DEQ concerning the landfill and waste disposal.** I spent a lot of time making phone calls and filling out DEQ complaints - and yet they were largely unresponsive and unwilling to take corrective action. This bureaucratic indifference discourages people from submitting complaints.

Though I've focused this message on violations of our laws governing waste disposal, the landfill operation has impacted my life in numerous, adverse ways. This includes offensive odors (on hundreds of occasions through the years), substantial quantities of litter on the roadway and along the roads leading to the landfill, dangerous loads being hauled to the landfill (a neighbor's wife was killed when she was hit by a trailer that came loose from someone returning from the landfill), increased traffic volumes and wear on our roads, and the substantial, irreversible changes to the character of our surrounding community due to the growing size of the landfill operation.

Thanks for considering my input,

Doug Pollock



Corvallis

From: [Ken Eklund](#)
To: [Benton County Talks Trash](#)
Subject: I volunteer for the subcommittee working on Common Understandings
Date: Thursday, October 6, 2022 12:09:27 PM
Attachments: [writerguy-cube2.png](#)

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Hello Workgroup:

Looking over your charter, under Scope & Charge, I see a charge to Develop Common Understandings and in particular, two items, Assumptions and Economics:

II. Scope & Charge

A. **Develop Common Understandings...**

1. A chronological history...

...

f. Assumptions (e.g. when will the landfill close)

g. Economics (i.e. Benefit – Cost, etc)

...

These are significant subject areas and seem to have received relatively little attention or documentation so far (I'm looking now at the draft "Common Understandings Table of Contents" 9/29/22). What little is there seems to come from a document I contributed to the workgroup.

I'd like to be helpful in filling in these gaps. Is there a subcommittee tasked with these areas? If so, I volunteer to join. If not, can one be formed?

Thank you for your attention,

Ken Eklund



Ken Eklund, writerguy

Creator of
World Without Oil
Ed Zed Omega
FutureCoast
and other storymaking games

From: [Ken Eklund](#)
To: [Benton County Talks Trash](#)
Subject: "Common Understandings" document for the Workgroup and appropriate subcommittees
Date: Thursday, October 6, 2022 10:34:11 AM
Attachments: [SWWG-commonunderstandings-SWAC.pdf](#)

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Hello,

On behalf of the Solid Waste Advisory Council I am providing you our “Common Understandings” document, for use in your draft products. This is the same document as provided to the Facilitator’s staff earlier at their request, just in a different format (this is in PDF format). This “official” version should supplement an earlier version. In particular it should be provided to the subcommittee addressing Common Understandings.

Thanks,

Ken Eklund
Chair, Solid Waste Advisory Council

Ken Eklund, writerguy

Creator of
World Without Oil
Ed Zed Omega
FutureCoast
and other storymaking games

Common Understandings:

Subject Areas for Understanding the Coffin Butte Landfill and the Solid Waste Futures for Benton County

Expressed as questions to be answered

Like the Solid Waste Workgroup, the Solid Waste Advisory Council and the Disposal Site Advisory Committee of Benton County seek “common understandings” about the landfill and the future of solid waste in Benton County, and we’re guided in this by the county community, county staff, and various citizens’ groups. For the Workgroup, we have compiled a list of the common understandings that we are seeking, which includes questions we’ve received from the community. The understandings being sought are best expressed as questions that must be answered before we can begin work on solving the issues themselves.

TABLE OF CONTENTS

Coffin Butte Landfill Capacity/Operating Life: “When is the landfill expected to close?”	3
Coffin Butte Landfill Environmental Impacts: “What is the environmental cost of the landfill?”	5
Coffin Butte Landfill Operational Impacts: “What are the rules that govern the landfill? Is it complying?”	11
Coffin Butte Landfill Public Safety Impacts: “What risks does the landfill create for the county?”	14
Coffin Butte Landfill Economic Impacts: “What are the economic effects of the landfill?”	17
Coffin Butte Landfill Future Directions: “What are our options as we move into the future?”	18
Coffin Butte Landfill Future Directions, Next Steps: “What are our next steps as we move toward a more desirable future?”	22

A key part of our quest for information is (a) we are seeking better, more future-oriented viewpoints and insights and (b) we are seeking better visualization of the information. What information exists is typically presented in “snapshots” when it would be more accurate to show it as flows from one state of being to another. What information exists is also typically presented in its hardest-to-parse form: a table of numbers rather than a graph, a sentence rather

than a photo, etc. For understandings to be common, they must be expressed in forms that make them commonly understood.

We hope these questions and the deep dives about them are useful to the Workgroup, and that the Workgroup can use its special status to highlight the need for better answers than we currently have for them, and persevere until those better answers emerge.

Approved October 5, 2022
The Solid Waste Advisory Council of Benton County

Coffin Butte Landfill Capacity/Operating Life: “When is the landfill expected to close?”

This fundamental bit of information has not been answered; there is currently no common understanding about when, under the status quo, the landfill will run out of capacity and close.

Four factors in answering this fundamental question:

1. Factor 1: What is the current capacity of the landfill?

Discussion: As established in the last DSAC meeting, the capacity stated in the most recent Coffin Butte Landfill annual report (17.6 M cubic yards left, 38.7M cubic yards total) is not accurate / is misleading: this capacity will only be available by the year 2030 at the earliest, and it assumes that quarry operations have continued through those years (increasing capacity) without interference from landfill operations. The non-quarry part of the landfill is set to fill by the year 2025, however, and then presumably landfilling must move into the quarry area and disrupt/end operations.

As established in a past DSAC meeting, the capacity that Republic has reported to the Environmental Protection Agency is also suspect. That number for total metric ton volume changes from 26.7M in 2016 to 35.5M in 2017, and no one seems to be able to explain this sudden increase in capacity. The landfill representative stated the Republic corporate office provides those numbers to the EPA.

Clear understanding is also confounded due to the various metrics invoked. The core metric for capacity is volume, but you will hear capacity expressed in units of weight (tons) or of time (years), and these expressions contain hidden assumptions about esoteric conversion factors. How many tons in a cubic yard? for new garbage vs. emplaced garbage? What is the volume differential between a ton of quarried rock vs. a ton of garbage? What is the assumed intake rate for each “year” of volume? And so on.

Specific questions to be answered, to determine “When is the landfill expected to close”:

- How often are LIDAR volumetric assessments performed? Have these measurements been independently verified?
- What is the area of the open (active) cell?
- What is the current usable airspace volume of the open (active) cell?
- What is the current usable airspace volume of Cell 6 (quarry)?
- What is the volume extraction rate for Cell 6 due to ongoing quarry operations? What is its extraction history?
- What is the intake volume history?
- What is the expected intake volume over the remaining landfill lifetime?

- What is the delay time in tabulating intake volume by weight?
- What penalties if any will be applied if the annual tonnage cap is exceeded in the future? Are these penalties sufficient to disincentivize runaway intake?

2. Factor 2: What is the current fill rate of the landfill?

Discussion: To calculate its estimate of the life of the landfill, Republic uses an average disposal rate of 750K tons per year in the 2021 landfill annual report. The last year intake was that low, however, was 2016. After annual intakes of 853K tons (2017) and 937K tons (2019) the current fill rate (2022) appears to be on course for 1.1M tons – almost 50% over the “750K” estimate.

Specific questions:

- What is the intake volume history?
- What is the expected intake volume over the remaining landfill lifetime?
- How close each year has the intake come to the cap?

3. Factor 3: How will the capacity of the landfill likely change in the future?

Discussion: There are factors such as quarry operations and “settlement” (gasification of garbage) that cause the landfill capacity to fluctuate over time.

4. Factor 4: How will the fill rate of the landfill likely change in the future?

Discussion: Theoretically, the landfill currently has an intake cap of 1.1M tons a year, but (a) it’s unclear if that cap has actual penalties associated with it or is just on paper, and (b) by the 2020 franchise agreement, that cap is removed if any landfill expansion is permitted. Also (c), there appear to be loopholes by which garbage can be taken in yet not count toward the cap.

Coffin Butte Landfill Environmental Impacts:

“What is the environmental cost of the landfill?”

The environmental cost of the landfill is a fundamental part of the cost-benefit analysis of the landfill, but not commonly understood at all.

Not unexpectedly, environmental factors typically do not appear in official communications about the landfill. The word “methane” for example does not appear in the latest landfill annual report, nor the acronym “PFAS.”

It’s important here to differentiate the environmental costs of the landfill from the environmental regulations on the landfill. It’s insufficient, in other words, to claim that “regulations were followed” and therefore to assert no significant environmental harm is taking place. Laws and policies are imperfect; they lag behind actual conditions on the ground; judging compliance with laws is fraught with error; and so on; this is all commonly understood.

A salient example: an expansion attempt by the Riverbend landfill in Yamhill County failed because, although the landfill asserted that it was following regulations regarding flyaway trash, the courts determined that trash was still flying away and neighboring properties were being actively harmed. That landfill has stopped operations and the local community has initiated proceedings to force it to close.

A partial list of environmental cost areas, to answer this fundamental question:

1. Leachate: the landfill produces leachate, which is toxic. What are the costs of leachate?
 - a. What is the generated volume of leachate? How much of this comes from the primary collection system and how much from the secondary?
 - b. What is the composition of leachate?
 - c. What are the levels of PFAS (“forever chemicals”) in leachate?
 - d. How much does it cost to process (pump out, store, ship, etc.) leachate?
 - e. How much does it cost to have leachate disposed of? Where is it taken to be treated? (City of Corvallis? Salem?) What is ‘Plan B’ if the leachate can no longer be disposed of locally?
 - f. How long will the landfill be generating leachate? How will the rate of leachate production change year by year in the future?
 - g. Who will be paying the costs of leachate over time?
 - h. How much leachate is bypassing the collection system? How much is or will be polluting the groundwater?
2. Waste gases: the landfill generates landfill gas, which contains methane, carbon dioxide, hydrogen sulfide and other gases. Some of this gas is recovered; whatever is not recovered leaks into the atmosphere. (Landfill experts estimate that recovery systems only collect around a quarter of landfill gas produced, on average.)

The landfill also operates a cogeneration plant, which burns landfill gas and produces exhaust. The landfill also operates two flare stacks, which burn landfill gas and produces waste gases. What are the costs of all these landfill, exhaust, and waste gases?

- a. What are the volumes and composition of gaseous emissions of the landfill?
- b. Presence of water increases the anaerobic activity that generates landfill gas. How does the output of the Coffin Butte Landfill, which is in an area of moderate rainfall, compare with landfills in low-rainfall areas?
- c. Methane: methane is a potent, destructive short-term greenhouse gas, and methane emissions from landfills are a significant contributor to global warming worldwide. Unit for unit, methane is considered to be 86x more destructive in short-term greenhouse effects than carbon dioxide. The EPA has estimated that methane emissions from landfills are understated by at least a factor of two, and considers landfills to be one of the three major sources of this potent greenhouse gas in the US, along with agriculture and the oil and gas industry. The Benton County Board of Commissioners has identified addressing methane pollution from the landfill as a priority going forward.
 - i. How much methane is generated in all by the landfill (daily / monthly / yearly)? How much of this is captured?
 - ii. What methods are being used to quantify how much methane is being generated / being captured / leaking from the landfill? Methane detection is notoriously difficult: are there more accurate methods available? Are there direct measurement technologies now available, from aerial or satellite surveys for example? What should we make of the studies that show that collection systems are net-negative, because of their leakage?
 - iii. Landfills convert solid waste to methane over time; a ton of solid waste will continue to generate significant methane for over a decade, usually two. Given the input history of the landfill and the projected intake, what is the projected methane output over the next 40 years?
 - iv. New environmental regulations in the Inflation Reduction Act enable the EPA to regulate greenhouse gases as pollutants. What measures has the landfill taken to reduce its emissions of greenhouse gases?
 - v. New environmental regulations in the Inflation Reduction Act impose a waste emissions penalty of \$1500 a ton on methane leaks in the oil and gas industry. If a similar waste emissions fee is imposed on the landfill, what will the effect be?
- d. Carbon dioxide: carbon dioxide is a greenhouse gas; carbon dioxide emissions are the prime driver of climate damage. Carbon dioxide is a slow-acting but long-lived greenhouse gas.

- i. How much carbon dioxide is generated by the landfill (daily/monthly/yearly)?
 - ii. Landfills convert solid waste to carbon dioxide over time; a ton of solid waste will continue to generate CO₂ for over a decade, usually two. Given the input history of the landfill and the projected intake, what is the projected CO₂ output over the next 40 years?
 - e. Hydrogen sulfide: this gas has a strong disagreeable odor, even in trace amounts. Its common name is “stinkdamp.”
 - i. Homeowners in the region of the landfill undergo “dump days” when the landfill smell is heavy and it’s unpleasant to go outdoors. What are the atmospheric conditions that cause “dump days”? Will these atmospheric conditions occur more often in a climate-changed future?
 - ii. Landfills convert solid waste to hydrogen sulfide (H₂S) over time; a ton of solid waste will continue to generate H₂S for over a decade, usually two. Given the input history of the landfill and the projected intake, what is the projected H₂S output over the next 40 years?
 - f. Other gases: what other gases are produced by the landfill? What are their health and environmental effects?
 - g. Particulate emissions: waste gases and exhaust from flaring/burning landfill gas.
 - i. What is the volume and composition of particulate emissions?
 - ii. Are there health or environmental effects from these gases?
 - iii. Will output of these waste gases increase as we move into the future?
 - h. Particulate emissions: dust from alternate daily cover, including Covanta ash.
 - i. What is the volume and composition of dust and other particulates generated by the landfill?
 - ii. Are there health or environmental effects from these particulates?
 - iii. Do these effects increase over time, as dust and particulates accumulate around the landfill?
 - iv. Are studies being done to measure these accumulations in organisms around the landfill? If not, why not?
3. Wildlife impacts: the landfill disrupts the natural environment. What are the costs of disrupting the area ecosystems?
- a. We have heard reports of abandoned nests/young at the northern heron rookery earlier this year. What were the results of heron rookery monitoring during 2022? Have these results been reported to ODFW?

accumulates in large amounts in area properties and along roadways. What are the costs of this pollution? Who pays them?

8. Long-term impacts (impacts that last 100 or 1000 years or more)
 - a. The landfill creates a “dead zone” hundreds of acres big, where no other land use can take place. What is the long-term cost of that?
 - b. The landfill has “mature areas” already, in which garbage cells have been filled, covered over with plastic, and then covered with a layer of dirt and planted with grass. Do they require maintenance to prevent trees and other large plants from taking root there, and penetrating the landfill liner with their roots?
 - c. The landfill creates a “avoidance zone” possibly thousands of acres big, where land uses are proscribed due to the inevitability that leachate will enter the groundwater and create an underground plume of contamination. What is the long-term cost of that?
 - d. The landfill creates an enduring maintenance situation regarding pollutants and toxics. One example: leachate. Rain falls on the landfill every year and creates more leachate, which must be pumped out and disposed of properly, or else it will overflow into the surrounding land and its groundwater. There are similar effects for landfill gases and microplastics. How long must these maintenance tasks continue? What is the long-term cost of these and other maintenance?
 - e. The landfill creates an enduring replenishment situation. Its wells for leachate and gas processing, for example, have relatively short lives and must be regularly replaced. How long must these maintenance tasks continue? What is the long-term cost of these and other maintenance?
 - f. The landfill creates an enduring public security situation. Its supporting systems must be continuously protected from vandalism and unintentional damage and from natural degradation. Each breach in its cap, for example, will let in more rainwater, thus adding to the maintenance burden. Misguided or rogue drilling or mining could breach the bottom liner layer. What is the long-term risk of this?
 - g. Long-term risks and costs like these are subject to a “future discount,” i.e., a degree to which they are reduced because it is assumed that our descendants will be better able to handle the burdens than we are. Long-term risks and costs like these are also often minimized or dismissed because our descendants are not here yet and therefore cannot speak up in their own defense. If a future discount is being applied to these costs, what is it? How was that number derived? Or are these costs and risks being discounted for the second reason?

Warning sign text for long-term waste disposal sites

THIS PLACE IS A MESSAGE.
AND PART OF A SYSTEM OF MESSAGES. PAY ATTENTION TO IT!
SENDING THIS MESSAGE WAS IMPORTANT TO US.
WE CONSIDERED OURSELVES TO BE
A POWERFUL CULTURE.
THIS PLACE IS NOT
A PLACE OF
HONOR.
NO HIGHLY ESTEEMED DEED
IS COMMEMORATED HERE.
NOTHING VALUED IS HERE.
WHAT IS HERE WAS DANGEROUS
AND REPULSIVE TO US.
THIS MESSAGE IS A WARNING ABOUT DANGER.
THE DANGER IS IN A PARTICULAR LOCATION.
IT INCREASES TOWARDS A CENTER.
THE CENTER OF
DANGER IS HERE.
OF A PARTICULAR SIZE AND SHAPE,
AND BELOW US.
THE DANGER IS STILL PRESENT,
IN YOUR TIME, AS IT WAS IN OURS.
THE DANGER IS TO THE BODY, AND IT CAN KILL.
THE DANGER IS UNLEASHED IF YOU
SUBSTANTIALLY DISTURB THIS PLACE PHYSICALLY.
THIS PLACE IS BEST SHUNNED
AND LEFT UNINHABITED.

Coffin Butte Landfill Operational Impacts:

“What are the rules that govern the landfill? Is it complying?”

The landfill currently operates as a regulated nuisance, or disamenity – that is, its operations are known to negatively affect neighbors, visitors, the community and the region, but these impacts are theoretically kept at or below tolerable levels, and the community and public-at-large protected, by regulations pertaining to the landfill’s various permits to operate. Compliance (or not) with these regulations is a fundamental part of the cost-benefit equation of the landfill.

Permitted operation of the landfill relies on effective oversight and enforcement of the regulations that pertain to its operations – this is also a fundamental part of the cost-benefit equation of the landfill.

It’s important, therefore, for there to be a common understanding of the legal and economic envelopes that the landfill operates in, both as a theoretical construct and how it actually plays out in reality.

It’s especially important for there to be a common understanding of how the legal and economic envelopes of the landfill extend and change into the future, because the landfill will be a negative presence on the community and the region for hundreds or thousands of years.

Specific questions related to understanding regulations on and compliance status of the landfill:

Coffin Butte Landfill Impact: Benton County Resources and Infrastructure

1. How do the current landfill traffic volumes (vehicles per day by type and total transported tonnage) compare to the baseline documented in the 2001 Baseline Study?

Coffin Butte Landfill Impact: Benton County Citizens and Landfill Neighbors

1. How do the sale prices of private properties sold to the Valley Landfills, Inc. over the past 40 years compare to similar properties not located near the landfill?

Regulatory: EPA & Oregon DEQ

1. What are the current governing permits and regulations?
2. What expected operational lifetime is on record with EPA and ODEQ for Coffin Butte?

Coffin Butte Landfill Closure: Process, Timeline, Operator Liability, Potential Franchisee Resistance

1. What lead time is required for proper closure?
2. What are the primary process steps in closing a landfill such as Coffin Butte?
3. What are the documented costs of closing landfills similar in size to Coffin Butte (e.g. slope and terrain restoration, continued monitoring, containment or removal of toxic material, compensation for damages resulting from environmental hazards, fires, etc.)?
4. What guarantees are in place that the owner will close the landfill upon substantial completion? (i.e., not drag out the process, as is happening with the Riverbend landfill)

5. What guarantees are in place that the landfill owner will not declare bankruptcy and abandon the landfill?

Franchisee Business Impact

1. What is the gross profit ratio for Republic Services landfill operations nationwide in the US? For the Coffin Butte Landfill?
2. What is the annual gross revenue for Republic Services landfill operations in the US, and how does this compare to the annual gross revenue for nationwide collection operations?

Business and Legal Envelopes

1. What are the current hours of operation (i.e. daily first employee arrival time – last employee leave time - daily)? What are the hours in which heavy equipment is active? What are the permitted hours of operation according to the current franchise agreement? What is the process by which these regulations are enforced?
2. What solid waste management plans has Benton County produced since the landfill was first permitted in 1974? What is the history of compliance to those plans?
3. What intake content monitoring measures are used (per load, sampling, open cell deposits, etc.)? How soon are those measurements released to the county and the public?
4. What are the current controlling documents for landfill operations (franchise agreement(s), site development plans, etc.)?
5. What are the inflow sources with weight and distance metrics (map form would be helpful)?
6. In the previous CUP application, Valley Landfills Inc. was listed as the applicant even though the application was submitted by Republic Services Inc. Which company is legally responsible, in perpetuity, for remediation of any environmental problems that may arise in the future? In other words, if Republic eventually sells or otherwise divests its financial interest in VLI, would Republic remain liable? Or would the liability be spun off to VLI?
7. Is Republic legally obligated to honor commitments made by its subsidiaries (VLI, Allied Waste etc.) during the application process for previous expansions that were allowed by the county?
8. What are the terms of Republic's lease agreement with Knife River Corporation, in terms of time period for excavation?
9. Knife River Corporation operates multiple quarries in the mid-Willamette Valley region. Are production rates at these other quarries reported to the state and/or counties? Or can the company make the numbers for recent years available to the Benton County working group?

10. What are the rules that govern the post-operational state of landfill components? What is the final grading plan and when will it be implemented?
11. What are the plans for reclamation of the 700+ acres of landfill? When does Republic plan to establish native vegetation on existing cells of the present landfill? Are there plans / Is there an obligation to make the area a wildlife habitat? Are there plans to make fishing ponds?

Coffin Butte Landfill Public Safety Impacts:

“What risks does the landfill create for the county?”

An operation as large as the Coffin Butte Landfill creates risks on a similar scale. These risks pose a conundrum, because they are often quite easy to hide or downplay, and it can be quite profitable to do so. It’s a common understanding that entire industries exist because they successfully acquire profit while generating risk and shifting it away from themselves, to other people, other places, other legal entities or to the future.

It’s vital therefore to establish a common understanding of the risks created by the landfill’s existence and operation, and how those risks will change over time. It’s especially vital to acknowledge that the modern landfill carries with it a large amount of unknown risk, because it contains materials that have never been landfilled before in such quantities or in combination, it contains materials whose toxic properties are not understood, and the landfill structures themselves are recent innovations and have not been field-tested for the timespans that this landfill will undergo.

Specific questions about landfill risks:

1. Risks of Fire, including persistent fire

- a. What is the fire history of the landfill?
- b. What is the risk of a subsurface fire that could persist for months or years?
(Example: the multi-year, \$200M fire at the Bridgeton landfill in Missouri. How did that dump fire start?)
- c. What gaseous and particulate emissions typically result from landfill fires?
- d. Given that methane is a flammable gas, what is the relationship between methane generation and fire risk?
- e. The cogeneration plant actively extracts methane from the landfill, which draws air (oxygen) into the landfill. This is known to increase the danger of fire. What steps are in place to make sure a mistake or malfunction does not create an explosive situation? Does the cogeneration operation’s desire for profit cause increasing risk to the landfill and the area?
- f. Does methane generation increase with warmer weather? Will an increasing number of hot days cause a corresponding increase in fire danger?
- g. What emergency plans are in place in case of fire? What precautions have been taken?
- h. What training is necessary to limit risk to fire crews when fighting a landfill fire?
- i. Does the risk of fire increase if the landfill expands?

2. Risks of Earthquake

- a. What magnitude earthquake are the slopes of the landfill expected to withstand? Specifically, will an earthquake collapse the south slope onto Coffin Butte Road? How susceptible is the landfill to liquefaction?
 - b. How susceptible is the landfill infrastructure (gas collection systems, leachate collection systems, cogeneration plant, and so on) to earthquake? What are the harms if systems are damaged or destroyed?
 - c. What emergency plans are in place in case of earthquake?
- 3. Risks from Hazardous Waste**
- a. How is hazardous waste officially defined?
 - b. How much hazardous material is received annually and what is it constituted of?
 - c. What safeguards are in place to prevent hazardous materials from entering the landfill?
- 4. Risks from PFAS, a class of persistent organic pollutants (“forever chemicals”) commonly used since 1940 in items that are commonly landfilled. PFAS are an emerging focus of health concerns, as we now know that PFAS accumulates in human tissue and exposure to it has been linked so far to increased risk of decreased antibody response, dyslipidemia (abnormally high cholesterol), decreased infant and fetal growth, and increased risk of kidney cancer, and other health impacts are likely to emerge. Concerns include health harms and economic harm from litigations**
- a. What studies have been done to identify the level of PFAS in the landfill? in leachate?
 - b. What plans are in place to prevent more PFAS from entering the landfill?
 - c. Do PFAS escape the landfill in leachate? In landfill gas? In other ways?
- 5. Risks from Flood – especially extreme flood conditions, which are becoming more prevalent as the climate changes**
- a. What level of rainfall will overwhelm the landfill’s leachate collection systems?
 - b. Will an “internal flood” cause stress to or overflow the landfill’s liner system? Will it potentially lead to leachate leaking into groundwater?
 - c. What plans are in place to prevent internal flooding of the landfill?
 - d. Have studies been done to pre-visualize the effects of extreme flooding (and other extreme weather) on landfill integrity and operations?
 - e. Does the risk of flooding increase if the landfill expands?
- 6. Risks of Extended Power Outages**

- a. What are the effects of power outages on landfill operations, especially necessary operations such as gas collection and leachate pumping? What studies or plans have been done to prepare for an extended power outage?

7. Risks of Concatenating Disasters

- a. What studies or plans have been done to prepare for situations where more than one disaster is happening, i.e., if a heat dome causes a power failure which starts a wildfire that jumps to the methane leaks of the landfill? Or an earthquake causes an extended power failure, critical damage to the landfill infrastructure, and a wildfire, which prevents emergency response?

8. Groundwater contamination

- a. Groundwater contamination is not a risk, it is an inevitability – the liner and other barriers to contamination will fail in time, and leachate and other contaminants from the landfill will enter the groundwater directly (the landfill currently sits directly on the water table). What are our best estimates as to that risk level currently? How does the probability increase over time?
- b. What are examples of liner failures at other landfills?
- c. What happens when this failure occurs? How will this failure be detected? How will the damage spread?
- d. What is the history of groundwater contamination at the landfill site?

Coffin Butte Landfill Economic Impacts: **“What are the economic effects of the landfill?”**

Customer Interests: “What effect does the landfill currently have on collection rates in the county? On recycling rates? What are the alternatives to landfilling and how do their rates compare?”

1. How do Benton County garbage collection rates compare to other Oregon counties?
2. How do Benton County recycling rates compare to other Oregon counties?
3. How do Benton County per-capita waste disposal volumes compare to other Oregon counties?
4. What rate changes did the residents of Yamhill county experience once the Riverbend landfill closure was underway?
5. Is Republic’s profit motive (the desire not to end quarry operations) a driving factor in their quest for expanding the landfill? Is the company seeking new landfill area so that they can delay using the already approved landfill area?
6. If the landfill decides to pursue an alternate means of disposal, in order to protect the profitability of its surface mining (quarry), will the extra cost for that be imposed on Benton County residents? Will the county act to prevent that from happening? Does the county have the legal protections in place to be able to do so?

Coffin Butte Landfill Future Directions:

“What are our options as we move into the future?”

Another fundamental (perhaps the most fundamental) bit of information about the county’s solid waste future is: what are our options? In other words, what happens if we do nothing? What happens if we do something? What happens if we do a third thing? And so on.

All roads of this document lead here: all the other understandings lead us to favor choosing one possible future over another. If the landfill is generating significant amounts of climate-damaging methane, for example, we favor choosing a future which generates less.

It can be difficult to arrive at common understandings about possible futures, because (a) people have widely varying comfort levels with even thinking about possible futures, (b) people have widely varying comfort levels with imagining possible futures, and (c) possible futures are best made understandable as part of narratives, and creating good narratives is a fairly rare skill. Futurethinking is hard, and telling complex stories is hard, which empowers overly simplistic options such as doing nothing.

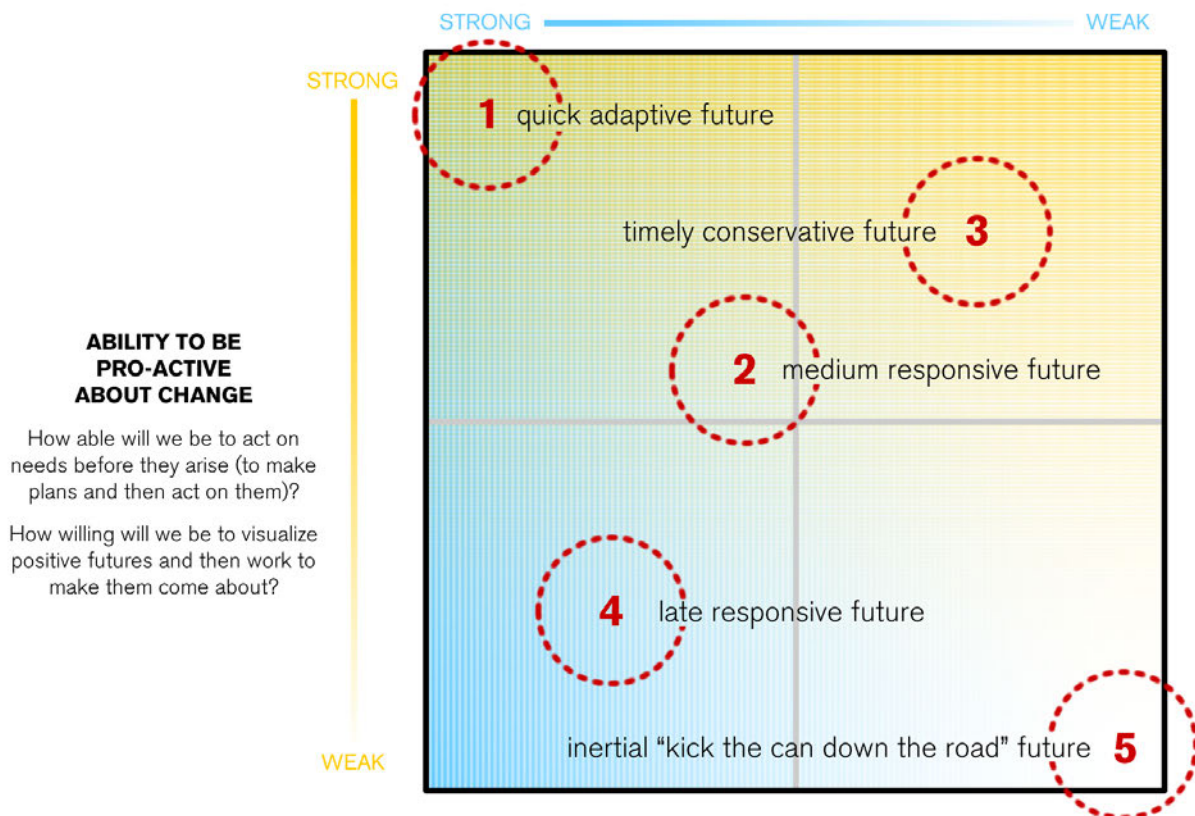
THE FUTURES MATRIX

FUTURES MATRIX

Benton County, Oregon 2022

LEADERSHIP IN MANAGING CHANGE

How open will we be to adopting new methods / technologies?
Will we help lead the way, will we follow others, or not change at all?



The “futures matrix” is a tool to help people begin futurethinking about a situation. To use a matrix, first identify two major forces in the situation, and then plot the four possible binary outcomes based on whether these forces will prove to both be strong, or one is strong and the other weak, or both are weak.

For Benton County’s solid waste future, the two key drivers are (1) our collective ability to be open to making changes and (2) our collective ability to be pro-active toward making changes. You can think about these as:

1. **Will the county lead, or will it follow (or not choose change at all)? and**
2. **Will the county make changes on its own initiative or only when forced to by outside circumstances?**

The question about expanding the landfill doesn’t appear on this matrix. That’s because expansion/no expansion is not really a futures question – that is, it doesn’t directly address the future of solid waste in Benton County. Whether or not a landfill expansion is approved, the county community still faces the challenges posed in this matrix. The expansion would just “kick the (trash) can down the road” (see Futures 4 and 5, below).

Let’s look at the five futures called out in circles on the matrix:

FUTURE 1: the quick adaptive future

In this future, the county is strongly pro-active about changing the way it manages solid waste and strong in showing leadership in evaluating and adopting new methods for sustainable materials management.

- a. Benton County knows the landfill is filling up... and also:
 - i. The county realizes the risks that the landfill may close prematurely (by legislation, litigation, shifting economics, and so on)...
 - ii. The county realizes the risks that the landfill may be closed (by fire, toxics breach, systems failure, and so on)...
 - iii. The county begins to quantify the future costs of the landfill.
- b. ...so it begins an aggressive program of waste reduction as a transition to its post-landfill future, as a way to pre-emptively reduce the amount of trash the county produces, which the county will have to deal with when the landfill inevitably closes. This also is the county’s best course of action to be resilient in the event of “premature” landfill closure.
- c. ...the county begins to assess its post-landfill options, such as building a truck-to-rail transfer station, so that it has a way to gather competitive bids for the solid waste that cannot be recycled or reprocessed or otherwise diverted from the wastestream. This also increases the county’s resilience in the event of landfill closure.

FUTURE 2: the medium responsive future

In this future, the county is somewhat pro-active about changing the way it manages solid waste and middle-of-the-pack in evaluating and adopting methods for sustainable materials management.

- a. Benton County knows the landfill is filling up, so it works toward waste reduction as a transition to its post-landfill future, as a way to reduce the amount of trash the county produces (and will have to deal with) when the landfill closes.
- b. Benton County knows the landfill is filling up, so it begins to assess its post-landfill options, such as building a truck-to-rail transfer station, so that it has a way to gather competitive bids for the solid waste that it cannot recycle or reprocess or otherwise divert from the wastestream.

FUTURE 3: the timely conservative future

In this future, the county is strong in showing leadership in evaluating and adopting new methods for sustainable materials management, but weak in actually implementing those changes. It splashes around in the shallow end of change.

- a. Benton County knows the landfill is filling up, so it develops a robust plan for transition to its post-landfill future, but is unable or unwilling to make the plan effectual, and still has a large amount of county trash to manage as the landfill closes.
- b. Benton County knows the landfill is filling up, so it assesses its post-landfill options (such as building a truck-to-rail transit station), but is unable or unwilling to make the post-landfill plan a reality.

FUTURE 4: the late responsive future

In this future, the county is weak in being pro-active about the necessity for change, but at some point the crisis cannot be ignored any longer, and then the county is quite willing to adopt bold new methods for sustainable materials management. It's asleep at the wheel at first, but then wakes up.

- a. Benton County knows the landfill is filling up, but it dithers in implementing a robust plan for transition to its post-landfill future until the last minute. It therefore has a large amount of county trash to manage all the way along and as the landfill closes.
- b. Benton County knows the landfill is filling up, but it is late in assessing its post-landfill options. Its options with long lead times (such as building a truck-to-rail transit station) are therefore off the table when it comes time to act.

FUTURE 5: the inertial, “kick the can down the road” future

In this future, the county is weak in showing leadership in evaluating and adopting new methods for sustainable materials management, and weak in being pro-active and anticipating the necessity of change. If this future seems familiar, it's because we are currently in this future: ten years ago, Benton County chose Future 5; twenty years ago, Benton County chose Future 5; and so on. That's the reason the county does not have a current Solid Waste Management Plan nor a coherent assessment of the landfill's risks and costs.

A key aspect of this future has been the county's loss of control over data about the landfill, especially independently derived data, and a lack of vision about alternatives to landfilling and ways to reduce landfilling.

- a. Benton County doesn't act as the landfill fills up.
- b. Benton County has no roadmap for its post-landfill options.

To return to the question we started with: “What are our options as we move into the future?”

1. **The Benton County community can decide to lead the way in evolving how it manages solid waste; or it can decide to follow as others lead the way; or it can do nothing. Which should it do?**
2. **The Benton County community can decide to be pro-active in its evolution away from landfilling; or it can wait until the situation becomes more urgent; or it can do nothing. Which should it do?**

Coffin Butte Landfill Future Directions, Next Steps: “What are our next steps as we move toward a more desirable future?”

One way to make it easier to futurethink about solid waste management is to break down each possible future into discrete steps, and then to focus on just the next steps for each. That way you don't have to be daunted by the exact route, you just need to be reasonably sure you're moving in the right direction. And you can remain open to new opportunities as they arise.

Specific ideas about next steps for the landfill and beyond:

1. Obtain independent, third-party, reliable data about key parameters relating to our waste stream and its effects.
2. Communicate with others who are also evaluating their options for their waste streams. Other counties in Oregon (and other entities across the nation and the world) are already operating successfully without a local landfill, and others are in the process of making the transition to post-landfill living. We can learn from their experience.
3. Study possible actions to take, and share that information. Some examples for Benton County: an intermodal transfer facility (which enables waste to be shipped more efficiently by rail); a materials recovery facility for construction debris; a materials recovery facility for advanced recycling; a waste-to-energy facility; upstream waste materials reduction policies; and so on. Net Zero and other strategies already exist, and they use policy and technology to begin to control and minimize damage from the county waste stream.
4. Hire a consultant who specializes in these transitions, to advise us.
5. Don't be afraid to engage the public at large. Asking “what if” is a game that anyone can play, and our ideas and values matter when envisioning a future and taking the first step, and then the next, and then the next, on the path to get there.



Approved October 5, 2022
The Solid Waste Advisory Council of Benton County

- end -

From: [REDACTED]
To: [Benton County Talks Trash; "Sam Imperati"](#)
Cc: [REDICK Daniel](#); [NICHOLS Darren](#)
Subject: BCTT Sub-Committee-2 Coffin Butte - Size Capacity Longevity - Memo Non-consensus
Date: Sunday, October 9, 2022 2:25:57 PM
Attachments: [DRAFT Landfill Service Life Size Capacity Longevity Sustainability - Coffin Butte Landfill Sub-Committee 10-9-2022.docx](#)

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi all,

Thank you again for allowing me to participate in the BCTT SubCommitte-2 deliberations

Please find attached memo with hopefully reasonable information for the committee's further discussion on a consensus for Coffin Butte's size, capacity, and longevity.

Since I do not currently have the full list of the other members of the committee, I trust that you will forward the attached memo to them at the appropriate time.

Thank you for your assistance.

Chuck

DRAFT

10/9/2022

Memo

BCTT Sub-Committee 2

Benton County Talks Trash Workgroup

Coffin Butte Landfill Service Life

Size, Capacity, Longevity

Chuck Gilbert - Member

This memo functions as biased in the sense it does not represent the consensus of the Sub-Committee-2 but serves as reasonable information on the subject matter under consideration by the sub-committee.

“Sustainability” is simply defined as using, developing, and protecting resources in a manner that enables people to meet current needs and provides that future generations can also meet future needs, from the joint perspective of environmental, economic, and community objectives. (ORS 184.421)

Where Sustainability thrives, so does Longevity. Sustainability is the key to not only community longevity, but also community success and flourishing.

“Resource” is something that is available for use or that can be used for support or help

A. Common Resources – Synchronization – Cell Reservation - Coffin Butte Landfill

An inquiry and understanding by the Sub-Committee2 of the multiple resources that are interwoven with the rate of solid waste going into Coffin Butte’s landfill cells is needed.

In other words, there is a synchronization process of three resources that needs to be resolved in order to advert the comparable results with the prior Benton County’s land application LU-21-047 permit decision by the Planning Commission.

The first resource is the landfill with enumerated solid waste cells designed and allowed for solid waste disposal north of Coffin Butte Road. The cells are finite in number, space, and volume for solid waste disposal and are operationally divided into closed , active, and future active cells.

The enumeration of cells, statuses, and capacities is documented in a report by Geo-Logic Associates, professional engineers, of Bend, Oregon for the site development plan of Coffin Butte Landfill, updated December 2021 for Valley Landfills.

This report is in the materials management document library at Benton County's web address: <https://www.co.benton.or.us/cd/page/materials-management-document-library>

Excerpts from the report are listed below in this memo for convenience and illustrates the numbers for the active and future cells and their lifespans based on the design space and volume of each cell. (*Reference 1*)

The intent here for the first resource is not to weigh the solid waste going into the landfill cells into tons, pounds, and ounces. But hopefully the Sub-Committee instead may work on an agreeable cell life expectancy with the design volume capacities that are referenced in the aforementioned report.

Nonetheless, it is to also recognize any imbalances in the resources that may be resolved equitably and sustainability within the solid waste management of Benton County, which also includes the regional waste streams going into Coffin Butte landfill from neighboring counties and municipalities.

The second resource is the parcel of lands reserved for the landfill but not yet allowed for solid waste disposal that is geographically south of Coffin Butte Road which is also in part reflected in the aforementioned site plan for Coffin Butte but is limited in design and focus.

Customarily, expansion of a land fill is triggered when solid waste input exceeds reservation ability of disposal cells.

In other words, there are no rooms at the inn.

With no vacancies or limited vacancies of cells, it evokes expansion, which in part is the discourse of the workgroup and the sub-committee-2 to seek collective understanding of the processes of solid waste management by incorporating the overarching goals and tenets of sustainability for expansion or other practical options possible as an alternative to expansion of a landfill but realizing also that the landfill is a viable resource in both Benton County and neighboring counties and municipalities.

The third resource is the rock and gravel aggregates being quarried in Coffin Butte.

It is not the intent to value one resource over another, but instead seek a balance that assures equity and sustainability of all resources where equilibrium is possible.

Knife River supplies stone, sand, and gravel which are the aggregates of the foundation of Benton County's and Oregon's infrastructure for highways, bridges, railways, airport runways, or even sand for the sandbox at home. Within this context, Knife River is a major resource of aggregate in the community.

Conversely, Knife River appears as the minor resource when compared to Coffin Butte's major resource of municipal solid waste within the perimeters of the landfill.

Although a resource hierarchy comparison may assign one resource to be minor while another resource is major, the interdependency of each other makes the overall homeostasis functionable.

In other words, by design Knife River quarries the rock for the landfill cells to the required sub-grade elevation for Coffin Butte use.

Coffin Butte landfill then builds upon the sub-grade with geotextile fabric, bentonite, and courses of drain rock before placement of solid waste into the cell until filled, then finishing with soil and fabric top layers to the design elevation for closure of cells.

Equilibrium is kept as long as Knife River has adequate time to quarry the rock thereby keeping ahead of the landfill cells disposal operations.

However, an alleged disparity exists in the site development plan for Coffin Butte referenced below that the current use of Cells 5D/5E for placement of solid waste has a 4-year cell life reaching capacity in Year 2025.

Likewise, future compartmental Cells 6A -6I slated into the primary Cell 6 being also the Knife River quarry excavation site that needs a reported 8-year more excavation time, even though the site development plan reflects a start date of Year 2026.

Also, Cell 1a was the original garbage site that was used by the former US Army training center at Camp Adair working from 1942 through 1944.

Republic Services advised SWAC, if my memory is correct, that Cell 1a this year will move the last part of the unlined refuse to a lined cell at Coffin Butte.

Hopefully, Cell 1a can be lined and used as additional space for inbound solid waste disposal.

Cell 1a is approximately 2 acres which would be approximately 1, 500,000 yards of capacity, extrapolated from similar acreage listed in the report.

B. Timeline – Service Life – Work Interruptions – Size Capacity (volume) – Longevity – Sustainability

Recapitulating by years, the current Cells 5D/5E service life would be from:	Years 2022 -2025	4 Years
Cell 1a, which needs verification may have a service life for solid waste.	Years 2025-2026	1 year
Knife River quarrying of Cell 6 needs an alleged 8 more years to finish	Years 2022- 2029	8 years

Cells 6A-6I then would have a service life from	Years 2029-2042	13 years
---	-----------------	----------

Work Interruptions at Coffin Butte for Years 2026-2029 - no cell vacancy	4 years
---	---------

Summarizing, approximately 1 million tons a year of solid waste starting in Year 2026 through Year 2029 would need to be reduced at Coffin Butte to synchronize with Cells 6A – 6I activation for solid waste in Year 2029 thereby giving 13 more years of service life north of Coffin Butte Road, if the sub-committee-2 determination agrees.

The common resources mentioned above work in unison, because their unique attributes form the geographic design and operations for solid waste disposal in the landfill north of Coffin Butte Road.

The common resources referenced above are not superior nor was it the intent to diminish or exclude natural resources, aquatic-life resources , atmospheric resources, farmland resources, timber land resources, wildlife resources, or fresh-water resources, but instead first examine the cause-effect relationship between specific resources and their attributes to determine a common understanding of the processes of solid waste management collectively within sustainable goals and tenets.

In closing, sub-committee-2 may need to dwell deeper into alternatives that can sustain Coffin Butte resources for the Years 2026-2029 for a temporary alternative disposal solution that may be necessary, if the sub-committee-2 affirms Knife River needs an additional 8 more years to finish the cell 6 excavation work.

References:

Reference 1. Site Development Plan – Coffin Butte

phasing details of Cell 6. This SDP update incorporates a phased design that reduces the lined landfill slopes to 1:1 (horizontal: vertical) in the existing quarry/Cell 6 area.

Organization of this SDP follows the latest version of ODEQ's *Solid Waste Landfill Guidance* document (<https://www.oregon.gov/deq>).

2. Facility Operations

2.1 Facility Operations

General facility operations have been previously described in the Operations Plan (GLA, 2020a) and the Operations and Maintenance Manual (GLA, 2020b). These documents were recently updated as part of the permit renewal associated with this SDP update. This section provides an overview of the information previously published, updated as appropriate.

The VLI land ownership around the CBL encompassing facility operations and waste placement areas can be seen in Drawing G02 in Appendix A. General facility operations consist of solid waste disposal operations, monitoring, maintenance, and management of leachate collection and removal systems, landfill gas collection systems, and stormwater management infrastructure, ancillary operations, and environmental monitoring operations.

2.2 Capacity and Projected Life

Site life calculations were performed for the CBL to estimate the overall life span of the landfill and the general schedule required for construction of the major individual phases. The site life calculations were based on (1) the volumetric capacities of the phases as shown on the SDP drawings in Appendix A, (2) an operational density of 1,600 lbs/cy, (3) a soil to waste ratio of 15% (for daily cover), and (4) an incoming tonnage of 2,959 tons per day (projected average daily tonnage). The capacity of each phase was volumetrically calculated from the top of waste design grades to the design liner grade using AutoCAD Civil 3D software. The volume of soil for the operations layer was subtracted from the gross air space. Supporting documentation for the site life calculations is presented in Appendix B.

The net available airspace volume available for disposal in Cell 5D/5E and Cells 6A – 6I, as of the March 30, 2021 topographical map, totals approximately 18,645,000 cy. For the purposes of this report, airspace is defined as the volume available for waste, daily cover, and interim cover. Soil

for daily and intermediate cover is estimated to consume approximately 2,797,000 cy of this volume, with an assumed soil to waste ratio of 15% by volume. Using the above stated parameters, the current fill area was calculated to reach final grades during the middle of the year 2039. Table 1 summarizes the site life projections for the landfill.

Table 1
Site Life Projection

	Plan View Footprint (Acres)	Capacity (CY)	Cumulative Capacity (CY)	Total Life of Cell (Years)	Year Capacity is Reached
Cell 5D/5E	6.1 ¹	4,834,330	4,834,330	4	2025
Cell 6A	19.8	1,482,260	6,316,590	1	2026
Cell 6B	11.3	1,029,430	7,346,020	1	2027
Cell 6C	4.3	1,742,130	9,088,150	2	2029
Cell 6D	11.0	1,859,820	10,947,970	2	2031
Cell 6E	3.9	1,078,420	12,026,390	1	2032
Cell 6F	5.1	1,686,070	13,712,460	2	2034
Cell 6G	2.4	2,015,260	15,727,720	2	2036
Cell 6H	1.1	1,295,450	17,023,170	1	2037
Cell 6I	1.2	1,622,130	18,645,300	2	2039

Notes: 1 – Cell 5 consists of Cells 5A through Cell 5E. Cell 5A through 5C are currently lined and accepting waste. Cell 5D (3.5 acres) was lined during 2021 and is awaiting approval for waste acceptance to begin in 2022. Cell 5E (2.6 acres) is planned to be lined in 2023. The plan view footprint presented in this table represents the areas of Cells 5D and 5E.

2.3 Population and Industry Served

At present, the landfill serves primarily the counties shown in Table 2. In addition, some amounts of overflow waste come to the landfill from Lane and Marion Counties. Future sources of waste are susceptible to change. The major industries served by the landfill consist of forest products, mobile home manufacturers, and the electronics industry.

REDICK Daniel

From: Richard and Charly Holmes [REDACTED]
Sent: Monday, October 24, 2022 9:44 AM
To: Benton County Talks Trash; samimperati@icmresolutions.com; NICHOLS Darren
Subject: Comments/Suggestions

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Coffin Butte Landfill COMMENTS AND SUGGESTIONS.

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- 1) Chip garbage/compact/seal in protective covering. Use for building materials, artificial reefs, etc.
- 2) Run Coffin Butte Road through tunnel. Pile garbage on top of tunnel.
- 3) Incinerate garbage. Use heat generated to make steam to run turbines generating electricity.
- 4) Up dump fees to encourage more recycling.