ENVIRONMENTAL MANAGEMENT COMMISSION

COUNTY OF HAWAI'I

MEETING MINUTES

Wednesday, December 16, 2020
9:09 a.m. to 11:41 a.m.
(online meeting via Zoom videoconferencing)

Commissioners present:

Justin Pequeño, Chair
Jon Olson, Vice Chair
Georjean Adams
John Burns
Melissa Cardwell
Dee Fulton
Rick Gaffney
Lee McIntosh

Staff present: George Hayducsko, Sanne Berrig

Others present: Michael Pierron, Chantal Chung, Evan Lam, Sandra Demoruelle, Jerome Warren, Dr. Rick Bennett, Councilmember Tim Richards, Councilmember Rebecca Villegas, Councilmember-elect Holeka Inaba, Mayor-elect Mitch Roth, Ramzi Mansour, Stephen Holmes, Kristine Kubat, Cory Harden, Candy Casper, Michael Stone, Nicole Larson, Nancy Cook Lauer, Joanna Norton, and others.

1. CALL TO ORDER

Chair Pequeño called the meeting to order at 9:09 a.m., took a roll call of the commissioners present. He said there is a commission seat open in District 3 and that his seat in District 2 will be open effective January 1st.

2. APPROVAL OF MINUTES OF OCTOBER 28, 2020

Motion, second, and vote: Commissioner Adams moved to approve the minutes, Commissioner Gaffney seconded the motion, and all commissioners voted aye to approve the minutes as drafted.

3. STATEMENT FROM THE CHAIR

Chair Pequeño thanked everyone for participating in today's meeting during the pandemic and finals week. He additionally thanked Michael, Chantel, Evan and George for their work and sharing their expertise to improve the health and vitality of the island's ecosystems. While COVID-19 remains a global threat, there have been silver linings that have awarded the opportunity to review priorities. Eventually there will be a period of economic recovery where funds will be available for infrastructure and related projects. The Chair acknowledged the DEM for working with the Department of Hawaiian Homelands to remove 382 vehicles and 700 tires from lots.

4. PUBLIC STATEMENTS

Chair Pequeño thanked those who had provided written testimony prior to the meeting, including Sandra Demoruelle, Monica Stone, Cory Harden, Kris Bordessa, Candy Casper, Selah Levine, Sterling Nichols, Michael Stone, James Weatherford, Randi Dobcyzk, Rhea Asuncion, Jennifer Navarra, Melody Euaparado, Marcus Lage, Dani Burger, Mandy Johnson-Campbell, Nicole Larson, and Kristine Kubat. He welcomed oral testimony at this time.

Sandra Demoruelle**:** *I would like to point out one thing that has not shown up on the Agenda and that is my lawsuit. I'm looking for a preliminary injunction against the Ka'u Sewer Project because I'm seeking an EIS on the project instead of the EA. It is under advisement by Judge Leslie Kobayashi under the District Court in Honolulu – the Hawaii US District Court. There could very well be a preliminary injunction order coming through that will be thorough and well-reasoned if it goes against the county (which it well might as we know from the Trump lawsuit.) Lawsuits that are going to be dismissed tend to be dismissed very fast. This was taken under advisement on September 18th so it has been months since we have heard. I have had six suits before and never has taken this long for a decision to be made. I would think the county should be bracing for something to happen there.*

Also, I would like to point out that I'm very concerned about the risk that's left over from the Bill that's pulled out the exemption hardship rules totally from the law. I think that that's leaving the county open to unlimited liability to citizen suits for that because there's a bunch of people that already have exemption and there will be people that need exemption and haven't that pulled out of the law without them commenting on it is leaving (I believe) the county open for liability.

The final thing is that there was a guidance issued by EPA on December 10th in the Federal Register. This is something everyone concerned with the environment should look at because it has to do with the Maui suit and what will constitute pollution and what will constitute the pollution from our wastewater treatment plants and whether we will be liable to clean that up (and it looks like we aren't.) I would like to point that out to you folks because it has a 30 day comment period that people might be interested in.

Jerome Warren: *I would like to testify now on Agenda items 5c and 5d. Item 5c: Hawaii County needs more people like George Hayducsko. Our new Director should put George's skills towards solving the day-to-day core functions of the county dumps. He needs to be down where the rubber meets the road, not up in an ivory tower. Home gardeners in Kau need three things; mulch, mulch, mulch. We had the gas from the sugar mill, we had cow manure from the dairy and then we had greenwaste mulch brought from Pu'uanahulu to the Waiohinu River Stump and now we have nothing. The mulch that Waiohinu was discontinued by politicians. Their reasons were irrational and in favor of their cronies in the compost business.*

5d: speaking of ivory towers, this is for the new Director. Harry Kim's Zero Waste Program was a fiasco. It was investing with cronies and rascals. Any activist citizen that wants to go to the Kea'au dump and tell people what to do with their garbage is invading people's privacy. Activists like that banned together and formed the Department of Environmental Management. They have created a means by which to Siphon off county funds. A prime example is the compost facility. It is a solid waste fraud. The Ka'u Waste Water Recycling boondoggle is even worse. On the other hand, greenwaste recycling benefits everybody. I share my squash and bananas with my neighbors. People used greenwaste mulch in a variety of ways and everybody thinks that their way is the only way and the best way. This creativity is the spice of life. An unnecessary compost facility on the big island will be expensive, dull and oppressive. It will be like those old health food stores from the 60's staffed by food Nazis - except the compost store will be run by the government. Today, people can now buy their organic granola at Costco. Let the private sector make and sell compost too. Rich people can afford to pay the $50 for a bobcat scoop – the average taxpayer cannot but we have to foot the bill. Going over to the Board of Ethics – they exposed the tip of the Ka'u Wastewater boondoggle (that was when Kucharski was being investigated.) Now it is up to the new Mayor to change course or keep arranging their Chairs. Again, this is an iceberg and we are the Titanic. We will be heading towards it with the wastewater fiasco in Kau.

Cory Harden: *Commenting on Agenda Item 7e on the Director's Report. This proposed rules on environmental management. This rule proposes cutting off water service if people don't pay their sewer fees. I'm real concerned about that because cutting off water service can literally be a death sentence during the pandemic. Even during normal times, lack of running water and really affect health and also if there are children in the home, you could get Child Protective Services coming in saying "it's not safe, you've gotta take these people out of the home." The rules are also proposing that customers pay reinstallation charges after the water is cut off (if they finally get it together to pay some of their bills) and the financial burden gets higher and higher. There is an appeal process – it looks really burdensome especially if someone is working from home and homeschooling their children. United Nations had recognized a human right to water and sanitation and said that "clean drinking water and sanitation are essential to realization of human rights." United Nations Committee defined the right to water as "the right of everyone to sufficient, safe, acceptable and physically accessible and affordable water for personal and domestic uses." Instead of cutting off water when the sewer bills are not paid, perhaps there could be a device that reduces the water pressure (makes it a little inconvenient). I think cutting off water is going too far.*

Nicole Larson**:** *I'm new here; this is my first time coming to one of these meetings. I'm here as part of the Zero Waste Big Island Coalition and I'm here to talk about #5 as well (composting new business) but specifically one very concerning aspect of composting waste management operations that I've seen not only here on Hawaii but on all of the islands. I'm from California originally and I also work for county there in waste management and my county is extremely serious about waste diversion and sustainability. I'm a marine scientist and dive instructor by training but now I live and breathe waste management (I call myself the "trash talker") and I'm here to address the very serious issue of plastic in nature. I've been a regular visitor to the island for a decade before moving here and I've been extremely concerned with the amount of plastic disposable foodware discarded by the ton daily. Equally disturbing has been the greenwashing campaign I've seen in all of the Hawaiian islands and this is about the adoption of bioplastic and compostable containers. The adoption of new types of single use food ware such as bioplastic has been marketed to businesses on the island as a sustainable option and everyone just assumes that just because the item says it is compostable that it is actually being composted. This is of grave concern because it gives people a sense of satisfaction that they are indeed being sustainable and proactive but those of us in waste management know that this is a fallacy. I work closely with haulers all over the mainland and I can tell you of certainty that bioplastic (also known as number 7) is treated as plastic and landfilled at all of the landfills and transfer stations I work with. The reason for this is that most commercial composting facilities heat materials at a maximum temperature of 120 degrees for a total of 90 days. Whereas bioplastic can only breakdown at temperatures above 150 and requires at least a period of 120 days to break down. Even if the bioplastic were to go through this composting process that hopefully we're going to be learning about today, unfortunately at the end of that process it would still be in tact at the end of the cycle. The biggest part is of course that this is all if Hawaii even had a composting facility… which we don't. This is problematic. Additionally, the majority of bioplastic and molded fiber to-go ware contain a group of extremely persistent chemicals known as PFAs. Their function is to impart water and food resistance to the food ware. However, the problem is that these forever chemicals stay around in the environment for thousands of years. This group of chemicals is associated with an array of problems including hormone disruption, effects of the immune system and increased risk of cancer (just to name a few.) Organizations such as the Center for Environmental Health have been testing many of these products since 2017. Their overall findings have lead this national organization to advocate for the complete phasing out of single use food ware wherever possible. This is an opportunity for our beautiful island. I'm here to encourage you to seriously consider how we as a community can begin to transition away from single use and towards reusable alternative. We need to incentivize and transition to reusables at full speed ahead. Many pilot programs are popping up all over the world, the states… everyone is thinking and looking about how we can safely and financially transition back to these reusables. It's critical that you as the decision makers understand that the only way that we can reduce the amount of the forever chemicals from our ground, water and soil is to keep all of these PFAs out of the landfill and stop this reliance on any type of single-use food ware and make steps away from this fallacy of bioplastic. Thank you for listening.*

Kristine Kubat: *First of all, it's very important for the commissioners to understand that in order to process the compostable materials in the bioplastics that Nicole just mentioned, we don't need to invest $10.5Million. I agree with Nicole, we are completely aligned with her concerns and the position that she has taken that we would need to phase out single-use items but as part of that transition we would want to collect these materials and compost them. The confusion arises because in order to sell these materials, they have to pass (according to California regulations) tests that prove they are compostable in a commercial composting facility. But that doesn't mean that is the only way they are composted; they can be composted at a smaller scale with much less of an investment. It all has to do with temperature – Nicole was correct about that. The Zero Waste Plant update that we are doing, we've been working with professionals, we've done our research and can absolutely confirm that a distributed system of smaller scale composting operations that get the temperatures up to the right degree for the right amount of time can process these materials. We look forward to this being part of the transition away from single-use items but we do need to have that capacity otherwise we are backsliding into the use of plastic and Styrofoam.*

We are very concerned about the current status of the contract with Hawaiian Earth Recycling. When Director Kucharski testified in before the county council, some of the remarks he made were concerning. It basically sounded like the contract was still open. Instead of taking the opportunity to close the contract. As we understand it from the information that we got was that (it wasn't easy to get information from DEM but from DOH) Hawaiian Earth Recycling was the party that withdrew the application for the permit. Our position is that the county should take this opportunity to end that contract. To leave it open to just have it hanging out there leaves the county open to lawsuits. We would encourage the county and we hope the Commission can look into this and make a recommendation into the county council and the Department of Environmental Management to that same effect.

Lastly, we've been calling for an audit of the Department of Environmental Management. At this point, we would like the Director to weigh in and state whether he thinks this would be of value. There are so many things have been happening over the past four years that have created the situation that we're in now that the Department should be audited. It's been since 2006 that the department has been audited. I believe at that time it was focused on the recycling operations and we feel there is a lot of useful information that could be gathered about the status of the department that could be helpful to the new director to make sure we're not repeating the same mistakes. In that 2006 audit, one of the main concerns the auditor had was the lack of good data and the lack of good information flow and we can attest that it was very difficult to get information from the Department of Environmental Management and a lot of that data was in poor quality. In moving forward with all these difficult problems we need to solve, it would be really critical for us to have much better information. We could go based on the 2006 information or we can move forward with a new audit. That would be a major concern.

Michael Stone: *I want to talk about the composting facilities – 5c, I believe. I'm a graduate student in the Tropical Conservation Biology and Environmental Science Program at the University of Hawaii. I'm studying the global impacts of plastic pollution and I'm also an intern*

with Hawaii Wildlife Fund in their Marine Sector on the big island. I am in strong support of community composting facilities and reducing all forms of harmful plastics on this beautiful island that we call home. As you know in October 16, 2019, paper and plastic materials were no longer accepted in Hawaii. As you can imagine this action in our island did not translate well with the residents or neighboring islands. The state of Hawaii has always prided itself on its recognition and appreciation of this land that we call home. We strive as a county to be stewards of the land and environmentally conscious like our ancestors that lived here before us. I'm choosing to support community composting facilities and reduce all forms of harmful plastic in any way the power of my voice will allow me. This will prove to be advantageous not only for our already overwhelmed recycling and waste system in Hawaii but also the environmental health of the land. No waste of recycling station in the world is equipped to deal with the sheer amount of volume of garbage in which we are creating. Only a fraction of all recycled or compostable waste is actually recycled or reused. Furthermore, composting is a natural and sustainable way to make use of our food scraps while sequestering carbon in our soil and also I strongly believe that with these local composting facilities, composting is something all individuals can do within their house. It's something that each individual can do on a level to where it doesn't even have to be fully through these composting facilities. There's more than enough literature and evidence to convince anyone who reads it that humans' unsustainable waste culture is extreme. I've personally seen Kamilo beach and other beaches in South Point and its very sobering to see the cumulation of trash coming from all over the world. It's not our fault but to see significant change, you must act locally within our communities and the time to act is now. This starts with meaningful and authentic decision making by governmental leaders. Our community is the one who elected them so I think it's their job to listen and the people of Hawaii have always been progressive on the issues regarding the environment and I hope we continue to keep that legacy in protecting our land and oceans.

5. NEW BUSINESS

a. Presentation by Michael Pierron of Compost Hawai'i regarding their operations and composting possibilities for the island.

Mr. Pierron: Mr. Pierron shared a slideshow via screen share. My business is Compost Hawaii and today I will share my insights for the work that I've been doing for the last several years and hopefully offer information to make an informed choice of how to proceed with this. I moved here in 2010 to finish my Agriculture Degree at UH Hilo. While I was a student, I got involved with an AmeriCorps program downtown with the Downtown Improvement Association and part of that involved community gardening and composting. That was when I first became involved with composting in a community sense. In 2016 after graduating I established the Hilo Herb Farm which is a community, volunteer-run, garden education center, plant nursery, and compost site. We would host volunteers from different organizations, and groups of school kids and do all kinds of educational activities and field trips. It was during that time that I used that space to experiment with the decomposition of bioplastics since that was around

the time that the single use plastic ban had been implemented and this problem of compostable materials being marketed but not actually being an avenue for them to be utilized in that manner. I started to recognize the need to close the gap between residential waste streams and identifying residential waste streams as an untapped resource of organic material that could be (I think) pretty easily diverted from the landfill and utilized in a really more impactful way than just tossing it.

That's what lead me to starting Compost Hawai'i in 2018. I started using the collection model that I developed during my time at the Herb Farm to implement as a business. How my business works is pretty simple; it's a membership-based subscription where people receive a weekly collection service. We started out with just compostable organic material and I've recently expanded my offerings to cardboard, paper collection as well as HI-5's. I'm limited it to HI-5's because I don't want to spread myself too thin yet. I've always focused more on residential waste streams because it's an undealt with problem. Residents (unless they're composting their own food waste) have no avenue to reduce that waste or to capture it any other way. Also, commercial food waste (at least on the east side of Hawai'i island) is not really a problem because pig farmers are dealing with it. It's been a longstanding arrangement between a lot of restaurant operators and businesses that produce different forms of food waste that they have arrangements with pig farmers. From my perspective it's not a problem that needs to be solved. That's why I focus more of residential waste streams. All of the equipment and educational materials are provided to my members by me that way it's really simple and easy for them to jump on board and just separate their waste; I take care of everything else. We collect it each week and all of the materials are transported to partners. This is where things get interesting. To handle this whole thing, I've developed a bunch of partnerships with farmers and a couple of other folks who are interested in composting the material or use it to feed the animals or do vermicomposting projects. Primarily it's been fed to animals because it's the easiest and least risky (I suppose) when it comes to contamination or health hazards. Over the past 5 years, I've had a bunch of different partnerships and different locations. Right now, primarily, I'm working on one site near Onomea. Most of the material that we collect is taken up there and put into these thermophilic windrows and composted for a finished product that is used onsite at the farm to grow crops. The current status of the business (it's very small scale). I was a one-man show for many years but I've recently been able to support some other people on the team. We're currently collecting about 5,500 pounds of material each month. When we're not feeding it to the animals and we're building the thermophilic piles, we're getting temperatures of 100-160 degrees depending on the levels of monitoring and diligence that we put in. To keep it composting safely, we have to maintain some level of diligence to ensure the temperature is staying high enough and the material is breaking down in a thorough and safe way.

I would estimate that my capacity is about 60% currently with the 40 members that we have (37 homes and 3 businesses) I think I could take a 40% increase with the current situation. We are planning on doing some expansion next year and I am hoping to

process as much as 11,000-12,000 pounds of material per month. This leads us to where we are now – we're talking about what does a decentralized network mean for composting. A huge, giant facility serving a very rural, low population density island from my perspective is an inappropriate solution to a problem that is being made up. I recall one of the complaints being that there are not enough ingredients – this is not absolutely true. There is more than enough waste to supply a really robust network of composters around the island serving each community serving to the needs of that community. When you break it down, there are a lot of people in the community who are really interested in participating and supporting. These stakeholders are public institutions, businesses, private residents, these are people who are really interested in adopting this and moving forward and supporting these ideas. We obviously need people to collect the waste from and participate in this system. It doesn't make sense for everybody to haul their own waste. There has to be some form of collection. That was the problem with the big facility because hauling things across the island is not logical or feasible. It's a huge expense and there are lots of problems. It makes more sense to have localized haulers within the communities who are transporting the materials to processors so that the distance of the transportation is being reduced significantly and a lot of the hazards associated with transporting the waste around are mitigated.

The thing that I would say is the most important to focus on at this time is a processing facility because at this time, it doesn't exist and that leaves the burden of everything on the shoulders of the individual operator which is really not a good solution – it really requires a network of people working together with a separation of roles to make it viable. The processing facilities that we're talking about with a decentralized network in the context of the Big Island ideally would be at least two (in the beginning) small to medium processors that are serving specific communities. This would help to establish a standardized practice that is scalable, that is measurable, that will have results that are appropriate for the needs of those communities. Part of these processing facilities it's really important to collect a lot of data about what type of materials, how much materials, where it's coming from, how it's being used, and all the fine details because there's so much richer information in that that can be extrapolated. It's really important to continue doing research and collecting this data so as we continue to scale up we're moving forward confidently and in an informed way with these data-driven results that we can reference with a concrete answer.

Another very important part of this network is financial support from what I think should be the county's responsibility to some extent. There has got to be financial support for public educational campaigns. People are willing and interested in participating in these new things but a lot of people just don't know. There's so much information out there and everybody knows their way and they think that's the best (and often think it's the only way.) Putting money towards public education is very important for the success of this so people are well informed as to how and why these programs impact them and how they benefit from it. Part of that is asset mapping. We

need to understand where these untapped feed stocks are, how to access them, how to identify them and just be sure we have a good variety of inputs that are available at all times so that there is never any shortage.

In summary, the decentralized network is a network of different people with different roles so that the entire burden isn't falling on any one individual operator. When we're talking about what scale within that is feasible: it just doesn't make sense to do one large-scale thing for our communities here. The Big Island is vast but the population is not dense enough to justify the establishment of a huge facility that requires everything to be trucked all over; it just doesn't make sense. It seems more within our means to establish smaller-scale sites. It's important to focus on separating the roles clearly; creating clearly defined avenues for each component of this compost network to be compliant with regulatory stuff, to be safe, to have standardized practices so everybody can be on the same page and there's less room for risk to come through. Multiple small-scale facilities is definitely what we should be focusing on at this point because of the population density. Obviously too small of a facility can't handle the requirements with bioplastics which I think highlights the importance of multi-tiered approach. There needs to be regulations for a very small-scaled operator that are different from someone who is going to be processing bioplastics. But with that said, bioplastics do not require an industrial-scale facility to break them down. I've have pretty good success maintaining temperatures sufficient to decompose them about 75%. It's all about the temperature, the level of monitoring, and the size of the material. Small-scale is not the most appropriate solution for that but there is a intermediate level that I think we can focus on that's better.

What does the strategy look like? I envision it similar to what I see already developing on the island. There needs to be a separation of roles so that the burden doesn't fall on any one individual. It's the collaborative network of people and private sector businesses, non-profit, residents all working together to contribute their excess organic waste using the services of collectors haulers to deliver the waste to the appropriate collections. Some of these locations could be farm partners or site hosts like I'm currently doing but I think it's really important to establish community gardens, innovation hubs and community resilience centers. This is something we've seen after the lava flows; these types of centers are really important for the resilience of communities when we have these inevitable things come up; we've seen this in the past couple of years. It seems completely natural for composting and community gardens to lend in to these resilience centers and innovation hubs because this is where we collect the data. This is where we do some of this experimentation and we employ some of these ideas to test out the viability in a safe way that's measured and monitored to find results that are appropriate to suit the needs of the community and not just create an overarching answer that glazes over everything that's not actually an appropriate solution.

Moving forward with a strategy like this, it's really important to keep the public engaged by promoting education about composting. It's important to collect all the data so we can have a viable scaling up process and it's also important for the county to coordinate with the state to have a clearly defined regulatory avenue for people like me or other collectors or other processors to have a clear understanding of what types of regulations there are in place based on the data that we're collecting. I think it's imperative that the county begin to invest in this type of research management consortium. We need to be identifying all the resources that we have, all of these things that are available that are not being used and find a good way to put them all together to serve our needs, to come up with solutions that serve our needs that are more impactful than this big compost facility.

One of the questions that I know is really important to some of the Commissioners is the question of bioplastics. I had pretty good success at decomposing most of the food ware. The bioplastics are more challenging and require more diligence and higher temperatures. I think that can be achieved with a medium-scale facility but I think it should be a multi-tiered approach so there is a capacity to process these materials. This is where innovation hubs are really important to supplement that. Currently this is based on the 2019 Integrated Solid Waste Management Plan Update which I don't feel is representative any longer of the actual numbers (I think there are a lot more food waste, yard clippings, paper waste… all these different materials available) but these figures represent feed stocks that are entering the landfill. This does not include green waste that is being processed and turned into mulch. All of this 71,000 tons of material could be composted and none of it is. I think it's more important to focus on getting that taken care of than it is to be paying attention to anything else. That 71,000 tons constitutes more than 50% of the entire annual waste strain. I think we have the capacity to handle a lot of that without having to come up with any crazy, complex, expensive solution. There are a lot of these pieces of the puzzle in place and I think it's just a matter of the county helping facilitate the connection and develop this network.

What I'm recommending is primarily the establishment of a pilot program for processing. Without processing, it makes my job immensely difficult. I've never been in it for the money but because of the amount of work I do, I have to do everything – the marketing, the collections, the processing, everything. I'm super passionate about this and it's my lifestyle so I'm okay with it. But if we're talking about the long-term viability of composting on this island, we're talking about establishing processing facilities that serve the needs of the community.

We need to be developing standardized best practices for the technical aspects of the processing for the safety, public health risk and all that. It needs to involve collecting data so we have solid answers and can take these steps confidently with measured results. We need to develop the network between the stakeholders, the collectors, and the processors to unify everybody so that we're all working together on a solution.

Independently, I'm proud to be making what I consider a significant impact but individually, it's just a drop in the bucket. It is absolutely essential that we have the support of the county to work together to build this together. If we're having to support this whole network is lending the success to one another and collectively growing as a whole. That really is going to require coordination between the county and the state to establish these regulatory avenues and to be sure that we're really understanding what are the needs and what are the problems we are addressing through these needs assessments and asset mapping. Those are all things we can do next year.

Developing the resilience hubs and innovation centers where we can use all the data that we've been collecting and come up with more innovation and come up with solutions so that we can be thinking on our feet as things change – those are more long-term areas that we can focus on. I think there's plenty of this easy, primary stuff that we can be working on now but as we are moving along down the road in five years, these resilience centers, community gardens, and innovation hubs are what I envision the meat of the compost network to look like – acting as the face, the processing centers and community engagement is all happening there.

In closing, a large-scale commercial facility isn't necessary, it's not appropriate. I think it's making up a problem that doesn't exist because food waste on the commercial level is being handled and the green waste is being utilized already. We need to be looking instead at the waste streams that are not being addressed. The individual players cannot manage the task of this and that highlights the essential nature of working together and we need to have the support of the county to help facilitate that. The county fostering this network of small operators is the most impactful and least intensive strategy for the island. There's so much momentum and public interest; people are very excited about it but they need support and for it to be facilitated by the county. There are so many untapped resources that we are not using. The Big Island is not the first place to come up with this system; it's been done all around the world in every major city. Surely we can come up with a solution that's appropriate that suits our needs that is benefiting everybody. And that being said, I have always believed that Hawai'i Island specifically is the poised to be the world leader and we could be serving as the empirical model for sustainability and how we conduct community solutions; how we can have a localized economy. I really believe that the Hawai'i Island is in a unique position to take charge and assume that role a lot more easily than people believe. We need to work together on composting and we need to develop this network.

Commissioner Adams: Excellent presentation, Michael. I think you've done a very good job of laying out the entire spectrum – the business lifecycle of how to make this work. The biggest concern that I have is how to make it sustainable in a sense of sustainable operations that go on and it isn't just a couple of really involved, excited volunteers. It needs to be something that's looked at as an ongoing effort and that there is somebody coordinating the whole project together (whether it's a smaller council of this network) but preferable somebody who's got the assignment that's making sure all the pieces are

being worked out. I agree that decentralization seems like the better solution for this island. I'm not sure what's going on with that operation in Shipman and hopefully we'll learn about that elsewhere. There are many moving pieces, and we need to look at how we can support it. Unfortunately, some of that is money (and Tim – are you really on this call – do we have any money that the county can support it?) and it also is state issues (we're dealing with DOH requirements and this county does not run DOH) it's an adventure in coordination on many different levels but I think a worthwhile one.

Mr. Pierron: I think that's a great point but I want to reiterate that there is a huge interest in the public in investing in this privately. Obviously, it's not fair for the people of this island to take on the burden of financing this system but there is absolutely willingness to contribute to it and participate in the development of it even if it includes incurring a personal expense.

Commissioner Cardwell: The county was willing to put millions of dollars into this huge composting facility so I'm wondering (I think I asked Bill about that at the last meeting) if that money has been earmarked for that composting facility then it seems to me that that money would be available for what Michael is proposing. I want to thank you, Michael, for that presentation. I think it was really helpful for us to hear about what you're doing and what's working and how you need support and help. I agree – it can't be on any one individual; this problem is bigger than an individual. I'm all in support of having smaller composting facilities around the island.
Also, you had mentioned a small-to-medium sized processing facility. Can you expand on that a little bit and what you meant by that exactly and if you have an idea of the cost if it's machinery?

Mr. Pierron: I don't have super specific information on the cost of a facility like that. What I'm alluding to is the difference in scale that I'm operating on which is entirely manual with pitchforks. There has to be step between that and the facility that was in the plans. There are numerous examples in other places that would have specific details about the cost and the space required. An idea that has been discussed is utilizing old cane facilities where there's already slabs, empty covered spaces, which is one of the best locations to be doing composting. I think there's a lot of space available in facilities that are not being utilized that could be converted to host some of these other activities I'm talking about. As far as cost goes, I don't want to be the one doing this all of this – I'm doing my part and it's going to be the responsibility of other people step forward to collectively work on a solution. With that being said, there are very creative, resourceful people. I have done a lot with nothing. I know Chantal has done incredible things with very little. I think with $1M or $2M of that $7M or $10M that's leftover; I think that a couple million dollars would be more than enough to establish something that has longevity that's substantial and won't fizzle out in a couple of years or lose momentum. There are numerous examples in other places regarding scale of operations in facilities and the costs involved.

Commissioner Burns: Have you thought of looking at the TMK – the plot maps where we have the current refuse stations to see if there's potential available land that's not being utilized that can be repurposed for this approach?

Mr. Pierron: I have not. I think that's a good idea. I have tried to work with the zoning and read TMKs but I don't have the time and don't have the interest. I don't think it should be my job. I think the county should be stepping up and taking charge of identifying those spaces.

Commissioner Burns: It's a great point. It may be a possible solution in terms of finding space that's already used for waste management due to the zoning involved with that so if there is available space it could save the hassle of having to identify that.

Vice-Chair Olsen: I think the first thing that we have to focus on is the issue of where the money comes from. If you look at the document that was created with the first recycling station transfer station in Kea'au, there was a discussion back then about getting the disposal fee at the point of purchase and taking the cost entirely off the property tax roles because the correlation of what you dispose of and who pays for it is not balanced. There is no correlation between one homeowner against another in terms of getting people to think about what it costs to dispose different things. The other issue is something that's near and dear to me – the discussion of where these are sited. In the beginning of this, when the Kea'au station was enlarged, there was discussion about traffic impacts. The positioning of the Kea'au Transfer Station was "it was an old dump; it already had a permit to accept waste." That's why it got built there. Not because it was the most convenient and/or safest place. The location of that transfer station has killed innumerable people because it empties out onto a high-speed thoroughfare, one of the main arteries of traffic: Hilo-Puna. That is something that we need to get our minds around. Another part of this is making the communities… getting back to the community-based idea where the transfer stations recycling centers are in the subdivisions. This may be a focus that is entirely Puna's because of the large number of lots and the huge subdivisions that we have out here but those traffic issues driving over to Kona for the meetings, I go by four transfer stations that are all on a main thoroughfare – the main circle island highway – and they are all crash sites. Is it the most convenient to the population base that is and will be (this is something that we have a planning department… we get them to work on it.) I would like to have some time later (not today necessarily) where we focus on the money issue because it all starts and stops with who pays for what and where and when. Thank you.

Commissioner Cardwell: How big can the operation get (collecting compost from residences) legally right now? I know there was something about artisanal compost collection sites which I don't think has passed. Maybe you could clarify that.

Mr. Pierron: That's part of the problem – there's no clear regulatory avenue and no coordination between the state and the county to provide an outline of exactly what I'm

expected to comply with or what level I'm supposed to be operating at; I'm the one making up those numbers asking for that to be legislation (I say "I" as we the individual operators.) We are given no guidance whatsoever. There's a lot of risk involved because there's no standardized practice or specific number regarding the safety. There's a lot of gray area and questions surrounding that. I use my degree and the skills I've obtained and my experience to use my best practices, but part of the essential thing right in front of us is establishing a processing facility so we can collect this data so we can establish a very clearly defined, very explicit regulatory avenue that people can be compliant with to protect people's safety to protect the image of composting and to promote the concept as a safe, viable thing that everybody is benefiting from.

Commissioner Adams: I believe that there is a permit by rule option for less than 3,000 tons and there is a National Composting Council that has a model bill that one can adopt with examples of different states that are doing different things. I think there is plenty of research available. Looking specifically at how you can set-up a regulatory system that will allow for your kind of operations that you're talking about. But you need to systematically go through; which means we need somebody who's going to be coordinating all this – not relying just on Michael. And I'll say again as the EMC, a lot of this is DOH regulations so we need to look ourselves at coordinating with another organization that's statewide.

Chair Pequeño shared that Michael's website can be found at CompostHI.com and encouraged all to check them out for more information.

b. Presentation by Chantal Chung and Evan Lam of Māʻona Community Garden regarding their operations and composting possibilities for the island

Chantal Chung: Chantal Chung shared a presentation via screen share. I'm Chantal Chung and you'll hear from Evan Lam later on in the day. I'm one of the Founding Members, and Board Member and also the Project Manager at Māʻona Community Garden. We're located in District 6 in South Kona. Our entire mission is based around increasing the capacity of our food systems (so that includes waste management). We sit solidly on the three-legged stool of research, complemented with outreach and education (which translated into community-based economic development.) We started our composting project four years ago. We took a look around at what was going on in our community and thought it was something we needed to do. It started off as a partnership between the Hawaiʻi ʻUlu Producers Cooperative and Māʻona Community Garden. Part of their business plan was to was to never allow even one pound of their food processing waste or their paper waste to reach the landfill. We came up with different ideas of how to do it; how other farmers can use it. We started the Māʻona Community Composting Project as a proof-of-concept project to prove and try out different ways of processing (between 2016 and 2019 – 100,000 pounds of food processing waste.) The first step we took was to look at what other research is out there; what's going into the landfill in addition to the food waste coming out of the co-

op? What could we possibly combine with that food waste to create a soil amendment? We referenced the study that was done in 2008 and published by Hawai'i County and it showed us that 23% of materials going into the landfills was just paper. So we thought "okay, let's try to combine food waste and paper and see what happens." We do it in two different ways. For the last 4 years, we've relied on static piles, thermophilic composting (hot composting) and in the last year, we've experienced with vermicomposting (we use Indian Blue composting worms). Our compost bins: we have 15 hot composting, each with a different variable changed (some it's the ingredients, some it's the type of bin, the length of bin, the size of bin, the placement, covered, uncovered). How can it be done without being a vector for pathogens or invasive species. As we all know, rat lungworm and the slug are a big problem. Fire ants are also a big problem. When you're bringing in materials and basically centralizing an entire food source for an invasive food species to come in and creating them a lovely, warm home for them to be in – if you're not monitoring the situation, doing your due diligence and research and paying attention to your methodology, you can easily have your composting operations become a vector for invasive species. We started the worm bin to see a different way of doing it; we want to have every possible permutation of materials and methodology to see what works the best, the fastest with the materials we have available on the island. We use the demonstration plots and gardens and bins to teach the community about how they can be better backyard composters.

We recently received a grant from OHA that allowed us to do workshops. We did 4 workshops in a weekend, no more than 8 people. We had a lot of families go home with worm bins and composting bins and Recycle Hawai'i helped us quite a bit with supplies and materials for the workshop. In our efforts to understand what's going on in other municipalities, to gather that data and figure out what it is we could be doing and how is it we could partner with other entities to do a better job, we looked to not only the United States (a decentralized network tied together by the New York City Compost Project, the California Alliance for Community Composting, and the State for Composting in the US – a document which provides a lot of the answers to the questions asked earlier.)

We wanted to address some of the common challenges: come take a look around – what's been done to solve those challenges in other municipalities. We do not want to reinvent the wheel. It's okay at this point for us to say "we don't know, we need to go and find out." There's no one operator or one organization or one person who knows it all. It's the DOH and the DEM and the County and the State and the Feds. We need to have a way to bring those stakeholders and policymakers together to have a frank discussion.

This is our process and I propose this could work on the state level and the county level. We've collected that data. We did a small-scale waste audit for our needs. We're in the process of developing BMPs (Best Management Practices). We engaged with stakeholders – we've identified them, we mapped them out. We've developed

partnerships across industries (for-profit, non-profit, governmental). We created a communication network between those partners. Then I took a look at the environment – what are the laws, polices and legislation? I wasn't able to collect them all because I don't know where it is but if we did it as a consortium as part of a larger project, I think we could aggregate this all together. What are the market specifications for our outputs? We can make soil amendments all day but unless the farmers want them and need them, then we're not producing something that people want. What's the political climate? What's our actual climate? Hawai'i Island has so many micro-climates. What are the social perceptions around composting? All of that feeds into the creation of pilot projects and outreach and education.

The ability to duplicate the project: If it's a one-off, it's useless. We can do all we want at our 5.54 acres in Hōnaunau and so could Michael on his very own. Unless we're able to duplicate our results, low entry cost for operators, low liability, we're not going to make much of a difference if we can't make it duplicable. And if we can't evaluate our results as well. We need to have a format to evaluate.

These are some of the reasons: HRS has regulations. There's a seal of testing assurance – that's the composting council across the United States. And then (for extra fun and amusement) here comes the Food Safety and Modernization Act that comes out of the FDA. Biological Soil Amendments – they have a huge section on that. All of these polices need to be aggregated into one place so we know what we're dealing with. All of the BMPs from other municipalities need to be aggregated and understood before we put together pilot projects that are going to be easy and well suited for the environment. This another successful project: Michigan Sea Grant – they use fisheries waste and agricultural waste together to create a soil amendment. There are successful and diligent well-evaluated projects out there that we can take advantage of the data that came from them. We don't need to reinvent the wheel. We don't need to have small operators out there (by necessity) making it up as they go along because they don't have the support.

Evan Lam: My involvement with this project is with a company called Circle Pack and this is a prototype. We are actively testing turning cardboard from an externalized resource (something we take in and send it out – whether that's through recycling services or treating it as waste and letting it go into the landfill). This prototype is using a cardboard shredding machine in concert with Chantal's operation to turn cardboard into a valuable resource that we can use at a local level. Combining cardboard and food waste to make a high-quality soil amendment. This is really simple; I bought a cardboard shredding machine and took it down to Chantal's place and we've shredded a ton of cardboard so far and what we're finding is that this prototype is effective at decreasing the breakdown time which would increase the commercial viability for commercial operators to turn food waste in a shorter timeline into a marketable product - a high quality soil amendment. It prevents some of the problems like caking (where you get some of cardboard that stacks on top of itself and doesn't breakdown). It is also a huge

timesaver. This opens up a pathway as we continue innovating with this technique to turn the total capacity from being a cost and an underutilized resource with what seems to be a very limited investment as part of our ecosystem on our island.

This cardboard shredding device and the things that surround it – the various partnerships and the community – is a process. An innovation hub would create solutions for the primary resources we have (cardboard, plastic, glass) and test out these experimental ideas and turn them into actual, viable projects. There's a model of innovation hubs that's very successful in Denmark.

On the last slide, Mr. Lam shared that these are all pieces of the puzzle. What he's advocating for is for the county's partnership and help among all who carry different pieces. In order to make the probability of success high, we need to bring all of the pieces together and investment time, intellect and resources. There's a lot of momentum right now to take the lead and begin to bring all these pieces together.

Commissioner McIntosh asked if paper could also be used (and not just cardboard.) Chantal responded that they are advocating for lab testing for the paperboard to see if the inks remain in the resulting vermicast of compost or if they are dissipated or dealt with by the worms or heat. The research out there is split.

Commissioner Fulton acknowledged Chantal (and Michael) for being here.

Chair Pequeño gave a testimony that he visited Chantal's facility and claimed that their operations are really quite impressive.

c. Presentation by George Hayducsko of County of Hawai'i on the County's Greenwaste Program

Mr. Hayducsko thanked all for the opportunity to give this presentation on this current program. Regarding earlier discussion on state legislation, he shared that there is a collaborative group within the county that participates in the group effort to support changes to the DOH compost permitting regulations, actively.

Mr. Hayducsko shared an overview of the Recycling Program. The UMO is costing the county less than $20,000 and ended up recycling over 19,000 gallons in 2019. He shared that the Master Recycling / Composter Program is currently being developed to increase the landfill diversion programs.

Mr. Hayducsko informed all about the HawaiiZeroWaste.org website is managed by them and there is a Green Waste and Food Discard section you can find there if you wish. You can also communicate with them via phone or email if there is ever a question.

Mr. Hayducsko reviewed items that can be collected and processed in terms of specifics for branches. He showed the sites available (although two are temporarily suspended because of COVID-19.) They are making advanced mulch. There is such a demand for green waste materials. A lot of mulch is distributed to residents each month. Commercial customers to pay a minimum fee for that product. Almost 260,000 tons of material is being managed. The farmers love it; the community loves it. Their most successful landfill diversion program (just looking at the tonnage.) Green Waste accounts for about 72% of the total landfill diversion program.

Mr. Hayducsko shared breakdowns of financials for 2020 including costs. They are trying to find money for the program. One opportunity is to renegotiate a contract with HER. They are currently designing a food waste educational program to get the community to reduce the material in the first place. This is being concentrated on food waste reduction. This is where we're concentrating some of our program.
Commissioner Adams asked for an explanation of organic facilities, mulch and compost. From what she understands, the county is not taking any food waste right now and asked if that is correct.

Mr. Hayducsko responded that that is correct. Currently the compost facility is suspended. There would be a lot of obstacles to move forward with that. As such, it is suspended in the near future as it was proposed. What's good about that is the discussion on backyard/community composting with this Master Recycling/Composting Program.

Commissioner McIntosh stated that green waste collection was discontinued because people were throwing TVs in there.

Mr. Hayducsko responded that they've been talking internally about how to bring back green waste to that site. If able to reduce cost for current program, there would be room to make this happen.

Mr. Lam asked what's actively being done regarding source reduction and how that's affecting all the food we import.

Mr. Hayducsko responded that that's currently being developed. There is no active program but it's in development right now. You should see information coming out about that in a few months.

Chair Pequeño asked for clarification on when the Master Composter and Recycling workshops or classes were coming online.

Mr. Hayducsko responded that they've had some delays because of COVID-19 but their goal is summertime.

Chair Pequeño reminded all that the issue of organic waste is not one that's going away and will be revisited.

d. Introduction of Director of Environmental Management (pending confirmation by County Council)

Ramzi Mansour informed all that the Mayor Mitch had another meeting to attend. Ramzi is the incoming Director for Environmental Management. He thanked Chantal, Michael, Evan, and George for their presentations.

Ramzi is a licensed civil engineer in the state of Hawai'i and the state of California. He is also a Certified Wastewater Operator in the state of California. He spent 30 years in the Wastewater and Solid Waste business within different private operations and certain counties in California. He had done a world-renowned research on the landfill cover system that was presented in Italy in 2001. He is the Chief Engineer for the Wastewater Division in Honolulu and he is looking forward to bringing together the communities on where they need to go. He has been in Hawai'i for almost a year.

Cory Harden asked about the proposed rule to cut off water for missed sewer fees.

Ramzi Mansour responded that that could cause a health risk and he would have handled this differently. If it has not passed, this is definitely something he can take a look at as he is trying to avoid health and safety issues with the constituents.

At this point, Chair Pequeño advised that many need to leave at this 11:30am mark and quorum may be lost so he asked if we would like to table the rest of the Agenda to the next meeting. Commissioner Burns responded that this worked for him as he had to jump on a work call.

Motion, second, and vote: Commissioner Adams made a Motion to postpone the rest of the agenda, this was Seconded by Vice-Chair Olsen, and all commissioners voted aye.

Commissioner Gaffney commented that one of the things we're not doing for two meetings now is getting priorities in front of the commission members. He suggested that we should all be tasked with putting ideas in writing before the next meeting as opposed to at the meeting so people can come prepared with question and discussion points.

6. UNFINISHED BUSINESS

a. Discussion on the Commission's priorities for 2021 and beyond.

This item was postponed.

7. DIRECTOR'S INFORMATIONAL REPORT DATED NOVEMBER 25, 2020

(Note: the report is posted online with the agenda on both the County Calendar and County of Hawai'i website under *Our County, Boards and Commissions, Environmental Management Commission, Agendas).*

a. The chloride content in the sewage collection at different points along the line and at the plants themselves.

b. Where the liners have been placed in the Ali'i Drive and Palani Road sewer system to make the pipes functional again.

c. The status of the Integrated Solid Waste Management Plan.

d. Information on the operation of the Wai'6hinu Transfer Station while construction is going on.

e. Report on the public hearing held on November 19, 2020, regarding proposed changes to the Department of Environmental Management's administrative rules.

f. Any updates on the Pahala and Na'alehu Wastewater Treatment Plants.

g. Any updates on Kealakehe Wastewater Treatment Plant R-1 upgrade

h. Report on whether recent work was done at or near the sump in Kealakehe.

i. The Department of Environmental Management's current CIP budget for wastewater.

j. The Department of Environmental Management's project list.

This item was postponed.

8. FUTURE AGENDA ITEMS

Chair Pequeño told the commissioners to email him as he will be accepting input until the next chair gets elected.

9. ANNOUNCEMENTS

Chair Pequeño announced the next meeting: January 27, 2021, and likely on-line.

10. ADJOURNMENT

groundbreaking is anticipated to be in December and the project completed by summer of 2021.

Commissioner McIntosh asked how trash would be accommodated at Waiʻōhinu while it was being built. Director Kucharski said he believed it would remain a three-day-per-week collection until the next facility is constructed, but he will check on it.

Commissioner Gaffney asked what work was done at the Kealakehe sump recently, and Director Kucharski said he did not know of any recent work done there but would check.

- They received a $2.3 million grant from the U.S. Economic Development Administration to do a programmatic EI or EIS for wastewater development in Puna. They will be pursuing a contractor to do the programmatic EIS, which is not site specific or project specific. It will look at a broad view of potential locations, layouts, sewering treatment, disposal sites, etc. They are working with Research and Development on this.

8. FUTURE AGENDA ITEMS

Chair Pequeño told the commissioners to feel free to email him and the secretary items they wanted to discuss. The latest to do so is the Tuesday of the week before the meeting.

9. ANNOUNCEMENTS

Chair Pequeño announced the next meeting: November 25, 2020, and likely on-line.

10. ADJOURNMENT

Motion, second, and vote: Vice Chair Olson moved to adjourn, Commissioner Gaffney seconded the motion, and all commissioners voted aye.

The meeting adjourned at 12:08 p.m.

Respectfully submitted:

Peter Sur, Secretary