AH Committee

From: County Clerk
Sent: Thursday, September 19, 2019 8:45 AM
To: AH Committee
Subject: FW: Response to Testimony to Deny Makila Farms based on full disclosure of ATU information
Attachments: FujiClean_ATU_Harmful_Products.png; Deakos_Responses_to_ACSI_Responses_19SEP2019.pdf

---

From: Mark Deakos <deakos@hawaii.edu>
Sent: Thursday, September 19, 2019 8:43 AM
To: Dennis Poma <dennis.poma@acsihawaii.com>; Greg Brown <gregbrown@bdmaui.com>
Cc: Tom Schnell <tschnell@pbrhawaii.com>; Kelly King <Kelly.King@mauicounty.us>; Keani N. Rawlins <Keani.Rawlins@mauicounty.us>; Tasha A. Kama <Tasha.Kama@mauicounty.us>; Riki Hokama <Riki.Hokama@mauicounty.us>; Alice L. Lee <Alice.Lee@mauicounty.us>; Mike J. Molina <Mike.Molina@mauicounty.us>; Tamara A. Paltin <Tamara.Paltin@mauicounty.us>; Shane M. Sinenci <Shane.Sinenci@mauicounty.us>; Yukilei Sugimura <Yukilei.Sugimura@mauicounty.us>; County Clerk <County.Clerk@mauicounty.us>
Subject: Re: Response to Testimony to Deny Makila Farms based on full disclosure of ATU information

Mr. Poma and Council Members,

I first want to thank you for taking the time to respond to the concerns I listed in my testimony and copying me on the response. This is important to make sure everyone has the best information possible in this important decision making process. DOH should really be part of this discussion. My responses are in green in the attached Word document but I will also summarize them here:

#1 – I concur that I may have misstated the variance requirement here since I'm not familiar with all the details of this project. Once the new well is drilled, will that change the condition of the proximity to a public drinking water well? The primary message I was trying to get across is that DOH approval is required for all Individual Wastewater Treatment systems. One cannot assume that DOH will allow a 5-bedroom ATU unit for a single bedroom home or that two ATU units will be allowed on a single TMK. The code (11-62-08; 62-27) states "No person shall construct [or], modify the construction of, or modify the use of a wastewater system without the approval of the director" and DOH confirmed that any IWT installation requires DOH approval and is done on a case by case basis. We know that very recent applications of this sort have been denied. A letter from DOH should be required to support any assumptions this project has relating to their ATU approvals.

#2 - My point here was that a maintenance contract is required, which you confirmed.

#3 - You confirmed this statement as well. With regards to the last sentence "the developer has committed to maintaining annual service contracts for the ATUs", this needs further clarification? Will the developer be paying for the service contracts of each ATU for the life of the ATU (~20 years) or for just the first year? Whatever the commitment is, this should be solidified as a condition of approval. If not for the life of the ATU, then the issue of the low-income homeowner being subject to DOH fines is still an issue.

#4 - This statement conflicts with your response to #3, where the burden of maintaining these service contracts has shifted from the developer to the HOA. Will the HOA be cracking down on homeowners who don't renew their service contract or monitor if they shut off their blowers? If there are examples of HOA's where this is working, providing that evidence would be beneficial.

#5 - I'm a little perturbed by this response, especially given Mr. Poma is a sales rep for FujiClean USA. This has nothing to do with spray systems, this has to do with biological cultures (aerobic and anerobic) that are sensitive to their environment. I've attached information directly from FujiClean USA that clearly shows a list of items that can harm the system, which was confirmed by my phone call with FujiClean USA. To completely dismiss this should be cause for concern.

#6 - You confirmed this statement as well. However, this statement contradicts what the project engineer shared with Council Members, that it would be fine to install a 5-bedroom ATU system for a 1-bedroom home and that it would work better. This also conflicts with my discussion with FujiClean USA that also stated the ATU units installed should match the usage (i.e. bedroom count) since they would not function properly if they are out of balance. This goes back to the topic of biological cultures that need a proper mixture of water, nutrients and oxygen and so the unit should align with the amount of water use. Why Council Members are being misinformed is cause for concern.

#7 - Of course there is no way to know what each home owner will do, so I concur. In my discussions with FujiClean USA, they said the most common reason for homeowners to shut off the air blowers is to save on electricity. He was quite surprised when I told him the cost of electricity in Hawaii and stated this could be a concern. While speculative, seems that in Hawaii, this behavior would be more likely to happen, especially with low income families trying to make the best use of limited funds. Evidence that the HOA can overcome this behavior remains to be provided.

#8 - There is clear evidence that DOH has denied more than one ATU on a TMK, which was not the case in the past. As Mr. Poma pointed out, DOH is getting more stringent with Individual Wastewater Treatment systems, including ATUs. To assume that DOH will grant a 5-bedroom ATU for a 1-bedroom house or additional ATUs on these parcels is speculative and should require a letter of support from DOH or public comments on record to support the developer's assumptions. Since the goal of these ATUs is to treat wastewater discharge before it is disposed into the environment, I can't see DOH or the manufacturer recommending the installation of a larger system that will reduce the quality of the effluent. Perhaps a letter from the manufacturer stating that a 5-bedroom system on a 1-bedroom house will produce a higher quality of effluent discharge is needed to support the project engineer's comments.

I wish we had the time to bring DOH into this discussion since they are clearly the subject matter experts on this but given the short timeline, I wanted to respond quickly. I believe these discussions are good and necessary for making the best decisions for our community.

Thank you for your time,

Mark Deakos

From: Dennis Poma <dennis.poma@acsihawaii.com>
Date: Wednesday, September 18, 2019 at 11:45

To: Greg Brown <gregbrown@bdmaui.com>
Cc: Tom Schnell <tschnell@pbrhawaii.com>, Mark Deakos <deakos@hawaii.edu>, Kelly King <Kelly.King@mauicounty.us>, <Keani.Rawlins@mauicounty.us>, <Tasha.Kama@mauicounty.us>, Riki Hokama <Riki.Hokama@mauicounty.us>, <Alice.Lee@mauicounty.us>, <Mike.Molina@mauicounty.us>, <Tamara.Paltin@mauicounty.us>, <Shane.Sinenci@mauicounty.us>, Yuki Lei Sugimura <Yukilei.Sugimura@mauicounty.us>, <County.Clerk@mauicounty.us>
Subject: Response to Testimony to Deny Makila Farms based on full disclosure of ATU information

Greg,

As requested, please find my responses attached to the testimony provided by Mr. Deakos.

<<...>>

Dennis Poma, P.E. | Principal

Advanced Compliance Solutions, Inc. | www.acsihawaii.com

94-515 Ukee St., #301 | Waipahu, HI 96797

Tel: 808.369.7116 | Mobile: 808.349.9076

Fax: 866.282.6206

Advanced Compliance Solutions, Inc
PO Box 30094
Honolulu, HI 96819
Ph. (808) 349-9076

ACSI Advanced Compliance Solutions, Inc.

Memo

To: Greg Brown, Brown Development

From: Dennis Poma, P.E.

CC: Tom Schnell, PBR Hawaii

Date: September 18, 2019

Re: Makila Farms ATUs

Please find Mr. Deakos responses to Mr. Poma in green below:

Please find my responses to the testimony provided by Mr. Mark Deakos:

Qualifications of Dennis Poma, P.E.

I am a registered Civil Engineer in Hawaii and have designed more than 50 septic and aerobic systems in the last two years on Oahu, Kauai, Maui, and the Big Island. I have been involved with wastewater engineering for more than 30 years throughout my career dealing with domestic and non-domestic system design, permitting and installation. Approximately 20 percent of current designs and applications are aerobic treatment units. My firm is also the local distributor for FujiClean USA Aerobic Treatment Units and I am familiar with how aerobic treatment works and the benefits they provide over septic systems. I am well versed and familiar with the requirements under HAR 11-62 for design and installation. I have an established relationship with the DOH wastewater branch and routinely converse with them regarding applications and compliance with the rules. I also design small commercial systems for small apartment complexes and retail establishments.

Responses to the statements made by Mr. Deakos.

1. The installation of each ATU requires obtaining a variance from the Department of Health (DOH)[1]. This variance is reviewed after 5 years[1].

This statement is not correct. Variances under HAR 11-62 are required when standard design conditions cannot be met, (e.g., setbacks, distance to groundwater, etc.). Variances are required when the system is within 1000 ft of a public drinking water well (i.e., serves more than 25 households), or when the discharge is within 3 ft of the groundwater. In both of these circumstances, septic is not allowed and the homeowner must install an Aerobic Treatment Unit (ATU) that meets the NSF 245 requirements for Nitrogen. If there is direct discharge to groundwater or within 3 ft of groundwater, then a disinfection (e.g., UV) must also be installed. If a homeowner decides to install an ATU in lieu of septic there is NO variance required.

I concur that I may have misstated the variance requirement here since I'm not familiar with all the details of this project. Once the new well is drilled, will that change the condition of the

proximity to a public drinking water well? The primary message I was trying to get across is that DOH approval is required for all Individual Wastewater Treatment systems. One cannot assume that DOH will allow a 5-bedroom ATU unit for a single bedroom home or that two ATU units will be allowed on a single TMK. The code (11-62-08; 62-27) states “No person shall construct [or], modify the construction of, or modify the use of a wastewater system without the approval of the director” and DOH confirmed that any IWT installation requires DOH approval and is done on a case by case basis. We know that very recent applications of this sort have been denied. A letter from DOH should be required to support any assumptions this project has relating to their ATU approvals.

2. In order to obtain approval from DOH for an ATU install, the engineer on record has to show a 2-year maintenance agreement with a licensed company to service these complex systems and owners must have an active service agreement (§11-62-33.1, 62-59)[2]. The service can be $400 per year.

This is not correct. While HAR 11-62-33.1(b) requires and active service contract it does not stipulate a 2-yr requirement. The rule states owners shall have an active service contract with the term (start and end dates) and be submitted prior to final approval and annually thereafter. My point here was that a maintenance contract is required, which you confirmed.

3. After 2-years, it is up to the homeowner to continue the service contract, otherwise **DOH is issuing fines of $100/$250 to $200/$500** for first and subsequent violations for homeowners that don't have an ATU service contract (HAR §11-62-82, 62-113)[2].

The State does place the burden on the homeowner to continue the service contract and State has not historically enforced this provision; however, more recently the State has been more attentive to this requirement. For the Makila Project, the developer has committed to maintaining annual service contracts for the ATUs and is will comply the requirement to submit the proof of service contract to State each year.

You confirmed this statement as well. With regards to the last sentence "the developer has committed to maintaining annual service contracts for the ATUs", this needs further clarification? Will the developer be paying for the service contracts of each ATU for the life of the ATU (~20 years) or for just the first year? Whatever the commitment is, this should be solidified as a condition of approval. If not for the life of the ATU, then the issue of the low-income homeowner being subject to DOH fines is still an issue.

4. ATU maintenance companies will tell you that most homeowners never extend the contract because they think they can maintain the ATU themselves and hence why most of the ATUs they inspect are not functioning as intended. This is further supported by other sources (https://inspectapedia.com/septic/Aerobic_Septic_Failures.php)[3].

This statement is unfounded and speculative that this project will not extend the service contracts. This project is committed to providing treatment systems that are above the beyond the State requirements under 11-62. Regular maintenance will be provided through the HOA to ensure service will be provided for each unit, taking it out of homeowners hands.

This statement differs from the one above, where the burden of maintaining these service contracts has shifted from the developer to the HOA. Will the HOA be cracking down on

homeowners who don't renew their service contract or monitor if they shut off their blowers? If there are examples of HOA's where this is working, providing that evidence would be beneficial.

5. A Texas A&M University guide to "Living with an ATU and Spray Field System (http://aglifesciences.tamu.edu/baen/wp-content/uploads/sites/24/2017/01/B-6234.-Living-with-an-Aerobic-Treatment-Unit-and-Spray-Field.pdf)[4] lists some common causes of a system malfunction including:

Too much water (too many showers, Jacuzzi, rainwater p. 5, 6, 7)

Too little water (water-saving devices, extended vacations, p. 6, 7)

Improper laundry detergents, use of bleach or too large a load (p. 6)

Garbage disposal (p. 6)

Drain cleaners (p. 6)

Antibacterial soap (p.6)

Excessive toilet paper (p. 7)

This article is not relevant to this project. First, this project is not using spray systems. Discharge from the ATU will go to a standard leach field where the higher water quality effluent will be further treated by the soil. Additionally, the ATUs selected for this project will be sized appropriately for the size of dwellings on each lot. The State of Hawaii actually uses the highest design flow requirement of 200 gallons per day per bedroom versus national average of 100 to 150 gallons per day per bedroom. For comparison purposes, a typical household design on the mainland uses 70 gallons per day per person and there is an average of 4.5 persons per home. That is 315 gallons per day per home. This same home with 4.5 persons or equivalent 3 bedroom home in Hawaii would need to be designed to 600 gallons per day, or 285 gallons more than a standard UShousehold.

I'm a little perturbed by this response, especially given Mr. Poma is a sales rep for FujiClean USA. This has nothing to do with spray systems, this has to do with biological cultures (aerobic and anerobic) that are sensitive to their environment. I've attached information directly from FujiClean USA that clearly shows a list of items that can harm the system. To completely dismiss this should be cause for concern about any of the responses in this document.

6. Also, the ATU system capacity should be large enough to handle the number of members in the household (p. 5)[4]. What happens if the developer builds one-bedroom units with a compatible ATU system and the homeowner wishes to add more rooms? Or will a

single bedroom homeowner be paying for a much larger and more costly system that handles more bedrooms?

The gallons per day rating for ATUs are based on flow rates the systems have been tested for under NSF 40 to handle. While the system may be rated at 600 gpd, the actually system capacity is really 1200 +/- gallons which allows for retention and treatment of the organic matter. ATUs can be ordered and installed based on the size of the dwelling. Most ATU suppliers will provide units as small as 400 gpd and up to 1000 gpd. The State reviews all plans for ATUs and requires that the units be sized appropriately. For example, if a homeowner submits plans for a 2 bedroom system they will only receive approval for 2 bedrooms and is not allowed to add additional bedrooms to the unit. Each County's building permit process ensures that when a home owner requests an extension or additional bedrooms, it must be reviewed by the State wastewater branch to ensure the existing system is sized appropriately. Sometimes homeowners will install larger systems than needed to accommodate future expansion.

You confirmed this statement as well. However, this statement contradicts what the project engineer shared with Council Members, that it would be fine to install a 5-bedroom ATU system for a 1-bedroom home and that it would work better. This also conflicts with my discussion with FujiClean USA that also stated the ATU units installed should match the usage (i.e. bedroom count) since they would not function properly if they are out of balance. This goes back to the topic of biological cultures that need a proper mixture of water, nutrients and oxygen and so the unit should align with the amount of water use. Why Council Members are being misinformed is cause for concern.

7. A homeowner can simply turn off the blowers on the ATU to reduce maintenance costs, which essentially turns it into a basic septic system.

This is speculative and not typical in my experience. I work with reputable service providers with our customers and homeowners to ensure this does not happen. While we cannot speak for homeowners intentions, this is not the intention of this developer or this project. The ATUs will be maintained by the HOA which will include regular checks of the blowers.

Of course there is no way to know what each home owner will do, so I concur. In my discussions with FujiClean USA, they said the most common reason for homeowners to shut off the air blowers is to save on electricity. He was quite surprised when I told him the cost of electricity in Hawaii and stated this could be a concern. While speculative, seems that in Hawaii, this behavior would be more likely to happen, especially with low income families trying to make the best use of limited funds. Evidence that the HOA can overcome this behavior remains to be provided.

8. DOH allows **only one (1) ATU per TMK**[1] and DOH also requires that every independent structure built on a property requires a separate individual wastewater system (IWS) installed, no matter the bedroom count (5 bedroom max associated with a single IWS). **This means only one dwelling per lot, no secondary farm dwellings or ohanas allowed**[1]. Does the developer have a letter from DOH stating they will allow more than one ATU per TMK?

This is not correct. The referenced Variance and one ATU per TMK does not apply to all properties. The Variance in this case only allowed for one ATU because that is all that was applied for by the homeowner under the Variance request.

HAR 11-62-31.1 (a)(1) states that …there shall be 10,000 square feet of land area for each IWS. Further, it states… the total flow into one IWS shall not exceed 1,000 gallons and one IWS shall not serve more than 5 bedrooms, whether in one dwelling unit or two. A dwelling means any building which is wholly or pertly used or intended to be used for living or sleeping by human occupants…

There are additional exceptions under this part when lots are greater than 1-acre, as with this development. No letter is required from the State provided the provisions of this HAR 11-63-31.1 are met, which is the case with this project.

There is clear evidence that DOH has denied more than one ATU on a TMK, which was not the case in the past. As Mr. Poma pointed out, DOH is getting more stringent with Individual

Wastewater Treatment systems, including ATUs. To assume that DOH will grant a 5-bedroom ATU for a 1-bedroom house or additional ATUs on these parcels is speculative and should require a letter of support from DOH or public comments on record to support the developer's assumptions. Since the goal of these ATUs is to treat wastewater discharge before it is disposed into the environment, I can't see DOH or the manufacturer recommending the installation of a larger system that will reduce the quality of the effluent. Perhaps a letter from the manufacturer stating that a 5-bedroom system on a 1-bedroom house will produce a higher quality of effluent discharge is needed to support the project engineers comments.

How to Keep Your System Healthy

So, you've made an investment in your Fuji Clean treatment system. You have a service provider and service plan. Now, you just have to respect your system and treat it right.

Here's the common-sense bottom line.... Remember that your treatment system is a living system. Billions of living microbes consume pollutants from your wastewater. Excessive fats, oils and greases can smother living microbes. Toxic substances can poison them. Therefore, please refrain from introducing items such as these into your system.

KEEP THESE ITEMS OUT OF YOUR SYSTEM!
THEY WILL HARM THE LIVING ORGANISMS
WORKING TO CONSUME POLLUTANTS FROM YOUR WASTEWATER!

CHEMICALS

Excessive Bleach
Paint & Paint Thinners
Herbicides & Insecticides
Motor Oil and Antifreeze
Antibiotic Pills
Chemical De-Clogging Agents

TRASH

Sanitary Napkins
Cigarette Butts
Baby Wipes
Dental Floss
Condoms
Kitty Litter
Paper Towels

FOOD

Excessive Cooking Grease
Coffee Grounds
Fruit and Vegetable Peels

GARBAGE DISPOSALS

Garbage disposals are not recommended for this or any onsite septic system. These devices inject heavy and inconsistent organic loads into the system, which can interfere with normal processing.

WELL DISINFECTING

Sometimes a contaminated well must be disinfected with bleach. In this event, we recommend that you flush chlorinated water from the system through outdoor faucets to prevent an excessive slug of chlorine from entering your treatment system.