

## AH Committee

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**From:** County Clerk  
**Sent:** Wednesday, June 19, 2019 7:52 AM  
**To:** AH Committee  
**Subject:** FW: Testimony Requesting Disapproval of Polanui Gardens and Makila Rural-East Developments  
**Attachments:** Deakos\_Polanui\_Makila\_Deny\_Zoning\_Test\_18JUN2019.pdf

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**From:** deakos@hawaii.edu <deakos@hawaii.edu>  
**Sent:** Tuesday, June 18, 2019 11:53 PM  
**To:** 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>  
**Cc:** County Clerk <County.Clerk@mauicounty.us>  
**Subject:** Testimony Requesting Disapproval of Polanui Gardens and Makila Rural-East Developments

Honorable Members of the Affordable Housing Committee:

I respectfully ask that you recommend disapproval of the two proposed projects as they will not address the affordable housing crisis in Maui County. Not only do the units not address the people that truly need assistance (making below 80% AMI) but all the “affordable” units that will be built will go to market value within the next 5 to 10 years.

In the meantime, we will:

- continue to overdraw an already stressed aquifer
- further contaminate groundwater and coastal waters with septic/ATU systems
- increase traffic
- lose agriculture land
- create more urban sprawl
- contribute more to the stormwater runoff that is destroying our reefs

In order to avoid an Environmental Assessment (EA) trigger from building a waste water treatment plant, the applicant has to go with septic/ATU systems in their development, similar to what they proposed for the Launiupoko Makila project that was denied last year. It is critical to understand the following information about Aerobic Treatment Unit (ATU) leach systems.

ATUs are very complex systems consisting of several chambers, an air compressor, a water pump and a leach field that allow for the continuous flow of wastewater. These systems **need routine maintenance by a trained professional or they simply become septic tanks**, which contaminate our groundwater and shorelines.

When I investigated the rate of ATU failures, I was shocked to learn that one study concluded: *“Of the 419 units inspected, field inspectors found 92% were producing unacceptable effluent discharge. Of the units with*

*no visual evidence of deficiency, 80% were producing unacceptable effluent discharge”*  
([https://inspectapedia.com/septic/Aerobic\\_Septic\\_Failures.php](https://inspectapedia.com/septic/Aerobic_Septic_Failures.php)).

I was also shocked to learn from 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>), some important information on maintenance and system failures. Some extracts include:

- 1) If one decides to do the maintenance themselves to save cost, the guide warns to vaccinate against diphtheria, hepatitis B and tetanus and **protect against hepatitis A**, paratyphoid, polio and typhoid fever, electric shock, poisonous and explosive gases and exposure to sewage through cuts that can lead to sickness or even death (p.2).
- 2) **Children and pets should avoid the leach field** where the effluent disperses and avoid any application to vegetable gardens (p. 4). Protect children and pets by installing fencing around components and risers with concrete lids (p. 8).
- 3) Some common causes of a system malfunction listed are:
  - 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)

Should we be banking the safety and health of our aquifers and shorelines on trusting that homeowners will limit their showers, laundry load sizes and toilet paper use, over the lifetime of their ATUs? The internet is riddled with folks infuriated with their ATU systems failing.

Also, the ATU system capacity should be large enough to handle the number of members in the household (p. 5). 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 home owner be paying for a much larger and more costly system that handles more bedrooms? Sources of this information have been added at the end of this document.

I completely understand the need to address affordable housing but 201H is not the answer. Affordability absolutely needs to be in perpetuity and developments need to meet certifications such as the Green Communities Certification for Affordable Housing (<https://www.enterprisecommunity.org/solutions-and-innovation/green-communities/criteria-and-certification>) to ensure that affordable housing is done in the proper place and built in the proper way. Affordability is not only about the house purchase but it's about living in the house (utilities, transportation, food, maintenance, healthcare) and the easiest way for any of the agencies to have oversight is to have policies in place that require 3<sup>rd</sup> party certification, similar to what more and more communities are doing across the country (<https://www.enterprisecommunity.org/resources/2015-incremental-cost-survey-13371>).

Let's get a handle on affordable housing without adding to our traffic pressure, further contaminating our aquifers and shorelines and compromising our environment, simply for a handful of higher end homes and unnecessary gentlemen estates.

Thank you for raising the bar on developers so the future of our keiki aren't compromised.

Mark Deakos, *Ph.D.*

Napili

808-280-6448

June 18, 2019

Maui County Council

**RE: Testimony requesting the Affordable Housing Committee recommend disapproving the Polanui Gardens and Makila Rural-East proposed developments.**

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A handwritten signature in black ink, appearing to read 'Deakos', with a large, stylized initial 'D'.

Mark Deakos, *Ph.D.*

Napili

808-280-6448

## References:

- High bacteria counts at Launiupoko reported:
- <http://khon2.com/2017/03/07/waters-off-two-maui-beaches-show-high-bacteria-count/>
- <http://www.lahainanews.com/page/content.detail/id/543596/Researchers-explain-ocean-water-quality-advisories.html?nav=19>
- <http://www.staradvertiser.com/2017/03/07/breaking-news/high-bacteria-levels-prompt-warning-signs-at-big-isle-maui-beaches/>
- <http://www.bestplaces.net/health/city/hawaii/launiupoko>
- <https://maui.surfrider.org/what-we-do/blue-water-task-force/>
- <http://emdweb.doh.hawaii.gov/cwb/wqd/viewer/Map.aspx> (or see attached DOH water quality spreadsheet for Launiupoko)

## Science showing cesspools/septic/ATU contaminate waters and shorelines

- <https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/hawaii/howwework/puako-lpb-update.pdf>
- [http://dlnr.hawaii.gov/coralreefs/files/2014/12/TNC\\_Puako\\_FinalReport\\_103014.pdf](http://dlnr.hawaii.gov/coralreefs/files/2014/12/TNC_Puako_FinalReport_103014.pdf)
- <http://www.southkoralacoastalpartnership.com/uploads/2/5/7/1/25718612/puako-uhh-tnc-2015-3v-revised-ab2.compressed.pdf>
- <http://www.hawaiibusiness.com/water-warning/>
- [http://coral.org/wordpress/wp-content/uploads/2014/11/Puako\\_PCA\\_mt\\_11\\_2014.pdf](http://coral.org/wordpress/wp-content/uploads/2014/11/Puako_PCA_mt_11_2014.pdf)
- [http://health.hawaii.gov/wastewater/files/2015/09/OSDS\\_NI.pdf](http://health.hawaii.gov/wastewater/files/2015/09/OSDS_NI.pdf) (map page 10)
- <http://coral.org/wordpress/wp-content/uploads/2017/01/PuakoPERAmendment011017.pdf>

## Some direct quotes from this last report on ATUs:

"Unlike the other options discussed in later sections, however, the ATUs will still have a direct discharge into the groundwater through the drain fields, which then flows quickly into the ocean and around the reef, due to the geology described in Section 1.1. The likelihood of the remaining nutrients in the treated wastewater reaching the ocean is high. It is also worth noting that if ATUs are not maintained and serviced regularly, the ability to treat wastewater to the quality described above is significantly reduced, resulting in even more nutrients and biological contaminants reaching the ocean. The primary maintenance costs for each ATU consists of pumping solids, general equipment maintenance and replacement, and electrical cost to operate blowers and pumps. The scheduled and emergency service should be contracted locally. It is anticipated that the ATUs will need to be pumped annually (\$3,600/yr, \$300/month). The operational costs of the ATU system are highest based on the annual requirements to service and pump the systems as prescribed by the County. The option of installing ATUs at each residence

would be better than doing nothing and can be implemented for the lowest capital cost. However, due to the high O&M costs, over a 20-year period and because it provides the least benefit from an environmental standpoint, this may not be the best option. While these units can be as successful in the removal of nitrogen and phosphorous as a centralized treatment facility, the remaining nutrients and organic material is still discharged into the groundwater and quickly into the ocean. This option provides a lack of adequate protection to the reef by allowing wastewater with some remaining nutrients from entering the ocean. - Because of this wastewater entering the ocean, a lack of protection to human health may also exist. While the ATUs provide a certain degree of treatment, this is somewhat contingent upon regular maintenance and adjustments based on water quality testing. While a service contract can and should be established in connection with this option, if this contract is maintained, or if adequate service is not provided, the quality of treatment is lessened, and risk to the coral reef and human health increases.”