

MICHAEL P. VICTORINO  
Mayor

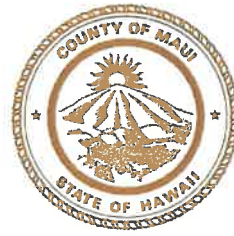
ERIC A. NAKAGAWA, P.E.  
Director

ROBERT SCHMIDT  
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MICHAEL KEHANO, P.E.  
Solid Waste Division

SCOTT R. ROLLINS, P.E.  
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**COUNTY OF MAUI  
DEPARTMENT OF  
ENVIRONMENTAL MANAGEMENT**  
2145 KAOHU STREET, SUITE 102  
WAILUKU, MAUI, HAWAII 96793

May 19, 2022

Honorable Michael P. Victorino  
Mayor, County of Maui  
200 South High Street  
Wailuku, HI 96793

APPROVED FOR TRANSMITTAL

For Transmittal to:

*Michael P. Victorino* 5/20/22  
Mayor Date

Honorable Kelly T. King, Chair  
Climate Action, Resilience, and Environment Committee  
200 South High Street  
Wailuku, HI 96793

Dear Chair King:

**SUBJECT: BILL 52 (2022), RELATING TO PROHIBITED DISCHARGE  
STANDARDS (CARE-88)**

This is in response to your May 3, 2022 request regarding prohibited discharge standards and the requirements for treated wastewater discharge. We respectfully submit that the proposed bill requires conditions that are presently impossible to achieve and further that the State of Hawaii Department of Health and the U.S. EPA are the authorities that regulate the use of recycled water and the disposal of treated wastewater via complex laws, rules, and regulations. Further, the bill is contrary to the County's intention to decrease reliance on injection wells. Below we have combined the Department's and Wastewater Reclamation Division's responses to your enquiry:

1. *Provide comments and recommendations to Bill 52 to enhance the bill's viability.*
  - a. **Quality of wastewater distributed for reuse** – Bill 52 states “municipal wastewater effluent reused by the County must meet EPA drinking water standards.”
    - i. The creation of drinking water, “potable water”, for reuse is an enormous undertaking that will require many years, possibly up to a decade to accomplish. It will require standards to be developed and approved by the Hawaii State Department of Health (HDOH) and the Environmental Protection Agency (EPA). The HDOH does not currently have regulations or standards for “potable reuse,” and is not anticipated to have these regulations in the near

future. Until these regulations are enacted by the State, any funding or work toward modification of County infrastructure would be futile. Once the regulations are in place, it will entail significant amounts of time to design and retrofit the existing treatment facilities, or more likely build auxiliary facilities, to further treat the water. It will cost nearly \$200 million per treatment plant (for reference we have attached an August 2018 Technical Memorandum prepared by Brown and Caldwell for the County during the *County Of Maui, Hawaii V. Hawaii Wildlife Fund Et Al* case detailing what would be necessary.)

- ii. The reuse standards are set by HDOH and apply to the quality of water that may be used for irrigation and other surface applications. The department questions the necessity of requiring additional treatment over and above what the HDOH authorizes in the reuse guidelines, which are separated into two volumes. Volume 1: Recycled Water Facilities addresses technical requirements to be met for various qualities of recycled water. Volume II: Recycled Water Projects covers the application process to use recycled water for various purposes and establishes best management practices that apply to the end user. Both volumes are available at <https://health.hawaii.gov/wastewater/home/reuse/>
- iii. Council has indicated its approval of diverting 100% of the effluent received and treated at the Wailuku-Kahului Wastewater Reclamation Facility to soil aquifer treatment (“SAT”) basins, which would eliminate the use of injection wells. Council approved the funding for the design and permitting phase, and the project is anticipated to be complete within approximately 6 years. Similarly, the plan for the Kihei Wastewater Reclamation Facility is to expand reuse mauka of the facility to be used to prevent soil erosion and for irrigation for livestock and fire protection. This bill indicates that Council desires to focus instead on implementing potable reuse for drinking water.
- iv. If the intent is to redirect efforts toward potable reuse for drinking water, improvements should be developed and funded in conjunction with the Department of Water Supply. Given the investment in such a large capital improvement, the end product should be required to be used to supplement the potable water supply rather than limited to typical irrigation projects. This would add a drought tolerant water source to the County’s portfolio. Note that when wastewater effluent is treated to meet drinking water standards there is a significant increase in the use of energy in the treatment process, and you create a byproduct of concentrated brine (approximately 20 to 40% of the total volume processed) that must be disposed of in deep injection wells. These two factors are both contrary to current policies to reduce energy use and eliminate the use of injection wells.
- v. Based on these factors alone we recommend that the County continue with its program to treat water to R-1 quality for distribution to customers in its reuse system. Use of this water by permitted users in compliance with the State Recycled Water Standards and Maui County’s ordinance, is safe and

economical, and will allow the wastewater division to invest its efforts, time and funds into expanding our reuse system.

b. **Quality of wastewater that is discharged** - Bill 52 states “Municipal wastewater effluent discharged by the County must meet Hawaii state R-1 reuse water standards.”

- i. This is unnecessary given the County’s current Underground Injection Control permits. The reuse standards are set by HDOH and apply to the quality of water that is used for irrigation.
- ii. The term “discharge” in the bill is not clearly defined. The bill does not specify if it only relates to injection well disposal or if it includes infiltration ponds, soil aquifer treatment basins, land application etc.
- iii. This does not specify if it is only for the island of Maui or is it intended for Molokai and/or Lanai also?
- iv. Upgrading a treatment plant to provide R-1 recycled water or expanding its reuse capabilities requires an application review (engineering report and construction plans), approval to construct and approval to use by HDOH. This adds additional time to the design/construction process. The State Recycled Water guidelines, which include requirements to construct or modify a wastewater reclamation facility, can be found at this link:  
  
<https://health.hawaii.gov/wastewater/home/reuse/>
- v. As you are aware, the Lahaina facility treats all water to the R-1 standard. It is reasonable to anticipate that upgrading the County’s facilities utilizing injection wells to treat all water to the R-1 standard could potentially be a requirement of future state permitting if legal and technical/scientific conditions exist. Testing for such conditions would take 18-24 months to design, implement and complete. Foregoing this testing would accelerate the implementation process but is putting the cart before the horse and may cause the County and its rate payers unnecessary capital spending and future operation and maintenance costs. The department’s recommendation is to continue working closely with HDOH, which is the regulatory and permitting authority.
- vi. Typically adding any type of requirement to discharge standards would require a socio-economic evaluation and rate impact analysis to determine if it is desirable given the costs and economic effects on the community. Bypassing this step places unknown financial obligations on all of our sewer customers.
- vii. Requiring this quality of water for treated discharge means different things at each facility. It takes three to five years to complete a typical CIP project dependent on the complexity of improvements, funding mechanism and permitting requirements.

1. Lahaina Wastewater Reclamation Facility (WWRF) already meets this water quality for its injection well discharge.
  2. Kihei WWRF will require a Project Engineering Report (PER) to determine what needs to be modified (process, piping, pumping, ,valves, storage, etc.) and how it will affect current and planned capital improvement projects (CIP). Design, environmental and other permitting would need to be completed prior to construction.
  3. Wailuku/Kahului WWRF will require a PER to determine what needs to be modified (process, piping, pumping, storage, how to best disinfect, etc.), permitting requirements and how it will affect current and planned capital improvement projects (CIP). In addition, there are plans to build a pump station, force main and SAT basins to replace the injection wells as the primary disposal method. This means that the implementation of R-1 at this plant may be unnecessary and should be left to the judgment of HDOH through its approval of the SAT basins project, which has already received Council budgetary support. An upgrade to R-1 is anticipated following these projects in order to have the water available for reuse as well.
  4. Kaunakakai WWRF will require process and configuration modifications to reach this level of water quality. A typical CIP process will be required (PER, design, permitting, construction).
  5. Lanai WWRF would require major upgrades and process changes in order to meet this requirement at the County facility for discharge to its infiltration ponds. Note that R-1 quality reuse water for irrigation is currently created at the private Pulama Lanai Auxiliary Plant using the County's effluent.
- c. **Funding and rate increases** - The bill states "The County must allocate sufficient funding for the implementation of this subsection so that its implementation does not cause a significant increase in sewage rates for residents."
- i. The term "significant increase" is vague at best and needs definition. Any addition to the planned six year CIP schedule will have an effect on rates that are already anticipated to rise each year for the next 5 to 6+ years to accomplish the construction of a new treatment facility, expand reuse, minimize/eliminate injection well usage, protect facilities from sea level rise and maintain/rehabilitate/expand our wastewater system.
  - ii. Enacting this bill will divert funding from other projects, namely reuse expansion, sewer system extensions, and elimination of injection wells.
- d. **Effective Date** - The bill states "This Ordinance takes effect upon its approval."

- i. This does not set a realistic timetable to complete improvements, nor does it acknowledge the fact that the County will need to stagger the improvement projects among its five treatment plants.
- ii. This ordinance could take effect immediately for any new facilities, however, it would be best to give a more realistic final deadline of 2040 for retrofitting existing facilities.

**e. Miscellaneous –**

- i. This bill creates a higher standard for discharge and use for County facilities than would be allowed for private facilities. If the reasoning for this type of regulation is for the safety of our citizens or our environment, why the omission/disparity?
- ii. The department/division is working towards minimizing/eliminating the use of injection wells as directed by the administration and the County Council. Attempting to also increase the water quality for reuse and discharge above current permitting requirements will result in additional spending and delay results. What policy should the department follow, or can we choose by location?
- iii. Bill 52 should not amend MCC 14.21A.015. MCC Chapter 14.21 relates to pretreatment regulations and what can be introduced into the sewer system and the Publicly Owned Treatment Works (POTW) by the general public and businesses. It does not regulate where, how, when or what quality treated effluent shall be or where it is discharged. Because any water treated at our reclamation facilities creates some grade of reclaimed water (R-3, R-2, R-1 or R-0), any new quality restrictions or use requirements should be within MCC Chapter 20.30 – Use of Reclaimed Water.

Thank you for the opportunity to provide you with information on this matter. Should you have any questions or concerns, please feel free to forward them to the Department of Environmental Management via transmittal through the Office of the Mayor.

Sincerely,



Digitally signed by Eric A. Nakagawa, P.E.  
DN: cn=Eric A. Nakagawa, P.E., o=County  
of Maui, ou=Director of Environmental  
Management,  
email=eric.nakagawa@co.maui.hi.us, c=US  
Date: 2022.05.19 15:09:57 -1000'

ERIC A. NAKAGAWA, P.E.  
Director of Environmental Management

cc: Wastewater Reclamation Division (WWRD)  
Richelle Thomson, Corporation Counsel  
Keola Whittaker, Corporation Counsel

Attach: Lahaina WW Treatment Upgrade for DPR

## CARE Committee

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**From:** Michelle Santos <Michelle.Santos@co.maui.hi.us>  
**Sent:** Friday, May 20, 2022 10:33 AM  
**To:** CARE Committee  
**Cc:** Eric Nakagawa; Josiah Nishita; Kayla Ueshiro; Nadine Orikasa; Robert Schmidt; Sandy Baz; Stacy Takahashi; Tyson Miyake; Zeke Kalua  
**Subject:** MT#9676 Bill 52 Relating to Prohibited Discharge Standards  
**Attachments:** MT#9676-CARE Committee.pdf

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*Michelle L. Santos*

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