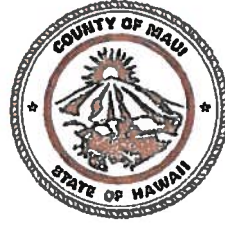


MICHAEL P. VICTORINO
 Mayor
 ERIC A. NAKAGAWA, P.E.
 Director
 ROBERT SCHMIDT
 Deputy Director
 MICHAEL KEHANO, P.E.
 Solid Waste Division
 SCOTT R. ROLLINS, P.E.
 Wastewater Reclamation Division
 TAMARA L. FARNSWORTH
 Environmental Protection &
 Sustainability Division



**COUNTY OF MAUI
 DEPARTMENT OF
 ENVIRONMENTAL MANAGEMENT**
 2145 KAOHU STREET, SUITE 102
 WAILUKU, MAUI, HAWAII 96793

April 19, 2022

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

APPROVED FOR TRANSMITTAL

Michael P. Victorino 4/27/22
 Mayor Date

For Transmittal to:

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 March 23, 2022 request regarding prohibited discharge standards:

1. Relating to wastewater treatment facilities owned and operated by the County:

a. What is the peak daily flow and average daily flow of each wastewater treatment facility?

Facility	Peak Daily Flow (mgd)	Average Daily Flow (mgd)
Wailuku/Kahului WWRF	7.0	5.6
Lahaina WWRF	6.0	4.1
Kihei WWRF	5.5	3.7
Kaunakakai WWRF	0.55	0.28
Lanai WWRF	Not available	0.35

b. What is the average daily flow and maximum daily flow that can be UV treated with the current equipment and operations?

Facility	What is the average daily flow (mgd) that can be UV treated with the current equipment and operations?	What is the maximum daily flow (mgd) that can be UV treated with the current equipment and operations?
Wailuku/Kahului WWRF	n/a	n/a
Lahaina WWRF	4.0	6.0
Kihei WWRF	2.5	5.0
Kaunakakai WWRF	n/a	n/a
Lanai WWRF	n/a	n/a

c. *Is the water currently being disposed of into injection wells UV treated? If no, why not?*

Facility	Is the water currently being disposed of into injection wells UV treated?	If no, why not?
Wailuku/Kahului WWRF	No	The facility does not have UV disinfection
Lahaina WWRF	Yes	n/a
Kihei WWRF	Partial	Limited UV capacity/piping configuration
Kaunakakai WWRF	No	The facility does not have UV disinfection
Lanai WWRF	No	No injection wells at this location.

d. *Is the water currently being disposed of into injection wells treated to R-1 standards? If no, why not?*

Facility	Is the water currently being disposed of into injection wells treated to R-1 standards?	If no, why not?
Wailuku/Kahului WWRF	No	Not required by our operating permits
Lahaina WWRF	Yes	Required by consent agreement with EPA
Kihei WWRF	No	Not required by our operating permits

Kaunakakai WWRF	No	Not required by our operating permits
Lanai WWRF	No	No injection wells at this location.

e. *Is the water currently being disposed of into injection wells treated to R-1 standards for fecal coliform? If no, why not?*

Facility	Is the water currently being disposed of into injection wells treated to R-1 standards for fecal coliform?	If no, why not?
Wailuku/Kahului WWRF	No	Not required by our operating permits, improvements required.
Lahaina WWRF	Yes	Required by consent agreement with EPA.
Kihei WWRF	No	Not required by our operating permits, improvements required.
Kaunakakai WWRF	No	Not required by our operating permits.
Lanai WWRF	No	No injection wells at this location.

f. *For the period January 2021 to present, what is the average daily volume of water disposed of into injection wells? What percentage of water disposed of into injection wells was UV treated or treated to R-1 standards?*

Facility	For the period January 2021 to present, what is the average daily volume of water disposed of into injection wells (mgd)?	What percentage of water disposed of into injection wells was UV treated or treated to R-1 standards?
Wailuku/Kahului WWRF	4.4	0%
Kihei WWRF	1.8	5%
Lahaina WWRF	3.2	100%
Kaunakakai WWRF	0.3	0%
Lanai WWRF	0	0%

g. *As required by the Underground Injection Control Permit Reporting Schedule, please provide test results relating to fecal coliform data for the past ten years.*

Per our UIC permits, *Fecal Coliform* is a parameter in a Type II sample. These samples are required to be taken at least once every 6 months. Below are the results from the last 10 years of Underground Injection Control Permit reporting:

Wailuku/Kahului WWRF		Kihei WWRF		Lahaina WWRF		Kaunakakai WWRF	
Date	MPN/100mL	Date	MPN/100mL	Date	MPN/100mL	Date	MPN/100mL
10/19/2021	>2419.6	12/14/2021	>2419.6	12/16/2021	<1.0	9/22/2021	>1600
4/14/2021	>2419.6	6/15/2021	248.9	6/07/2021	<1.0	3/23/2021	>1600
10/20/2020	sample error	12/01/2020	>2419.6	12/14/2020	<1.0	9/10/2020	>1600
4/15/2020	no sample*	6/24/2020	>2419.6	6/09/2020	<1.0	3/11/2020	>1600
10/18/2019	>2419.6	12/03/2019	>2419.6	12/12/2019	6.3	9/17/2019	>1600
4/9/2019	1553.1	6/20/2019	>2419.6	6/06/2019	<1.0	3/06/2019	350
10/25/2018	>2419.6	12/13/2018	133.4	12/18/2018	<1.0	9/27/2018	No analysis
4/19/2018	<1.0	6/26/2018	>2419.6	6/7/2018	<1.0	3/29/2018	No analysis
10/17/2017	>2419.6	12/4/2017	290.9	11/28/2017	<1.0	9/19/2017	No analysis
4/25/2017	No analysis	6/27/2017	16	6/14/2017	<1.0	3/22/2017	>1600
10/05/2016	4.1	12/14/2016	<1.0	12/07/2016	<1.0	9/19/2016	58.4
4/20/2016	<1.0	6/22/2016	<1.0	6/15/2016	<1.0	3/09/2016	437.4
10/21/2015	<1.0	12/09/2015	920	12/16/2015	2	9/16/2015	>1600
4/22/2015	<1.8	6/10/2015	540	6/17/2015	<1.8	3/11/2015	160.9
10/29/2014	<1.8	12/17/2014	540	12/10/2014	<1.8	9/10/2014	>1600
4/23/2014	<1.8	6/04/2014	<1.8	6/18/2014	<1.8	3/13/2014	No analysis
10/23/2013	<1.8	12/18/2013	79	12/19/2013	<1.8	9/18/2013	No analysis
4/17/2013	<1.8	6/19/2013	<1.8	6/20/2013	<1.8	3/13/2013	No analysis
10/24/2012	<1.8	12/19/2012	>1600	12/12/2012	<1.8	9/19/2012	>1600
4/18/2012	<1.8	6/20/2012	2	6/13/2012	2	3/28/2012	8

*No sample required (COVID)

2. *Relating to current and future plans to upgrade County disinfection systems:*

- a. *Please detail current or future plans to upgrade the County's disinfection systems, including the type of disinfection that will be used, when the upgrades will be completed, and anticipated costs.*

Wailuku/Kahului WWRF: Currently we plan to upgrade the disinfection system using an Ultraviolet Light system (UV) to produce R-1 water to coincide with the completion of Soil Aquifer Treatment (SAT) basins, Recycled Water Pump Station and force main. This will allow customers along the alignment to connect to the system. We currently anticipate to start design in 2026 and commence construction in 2028, completing in 2029. Anticipated costs are \$19.8M for the UV upgrade. We do not have any current plans to upgrade to UV for discharge to the injection wells.

Kihei WWRF: WWRD is currently renovating and adding UV disinfection equipment to an existing third channel at the facility. This will add redundancy and allow for increased R-1 production for reuse during high flow. In order to divert only R-1 to the injection wells a Project Engineering Report should be prepared to

determine what combination of a new channel, UV equipment, pump system, piping and other improvements would be necessary. We currently plan to include the PER in our FY24 budget proposal. The improvement costs are estimated to be \$15M to \$20M.

Lahaina WWRF: We do not have any current plans to expand the disinfection system. We have designed a flow equalization system using existing basins that will allow us to better control flows through the filter and UV system in order to accommodate the daily flow peaks into the future. This will go out to bid in the 4th quarter of FY2022 at an estimated cost of \$15.5M.

Kaunakakai WWRF: We do not have any current plans to install a disinfection system to produce R-1 water. We currently have a chlorine contact chamber that can be used to produce R-2 water if needed.

Lanai WWRF: We do not have any current plans to install a disinfection system. Treated water is currently sent to a privately-owned treatment facility that uses UV disinfection to create R-1 water.

- b. *What is the projected amount of average daily flow that will be treated after the upgrades? What will be the projected peak daily flow?*

Wailuku/Kahului WWRF: It is expected that all flows would be treated by the system. Average daily flow 7.9 mgd, Maximum peak daily flow 15.8 mgd.

Kihei WWRF: After completion of the current upgrades the average daily flow could be 5.0 mgd, however it will remain 2.5 mgd until additional improvements occur (see 2a above). Maximum peak daily flow will be 7.5 mgd.

Lahaina WWRF: All flows are treated by the current system. Maximum peak daily flow 6.0 mgd.

Kaunakakai WWRF: Not applicable.

Lanai WWRF: Not applicable.

- c. *What will be the maximum amount of wastewater that can be disinfected daily with the upgrades?*

Wailuku/Kahului WWRF: Upgrades have not been designed. We anticipate that all effluent will undergo UV disinfection.

Kihei WWRF: With the current upgrades three channels could theoretically treat 7.5 mgd.

Lahaina WWRF: There are not any upgrades planned at this time.

Kaunakakai WWRF: Not applicable.

Lanai WWRF: Not applicable.

- d. *Once the upgrades are completed, what is the projected level of disinfection of injectate? Will all injectate reach the same level of disinfection?*

Wailuku/Kahului WWRF: R-1 for all treated water to the SAT basins.

Kihei WWRF: The current upgrade will not change the level of disinfection to the injection wells.

Lahaina WWRF: There are no upgrades to the disinfection system. The disinfection level will continue to be R-1.

Kaunakakai WWRF: Not applicable

Lanai WWRF: Not applicable.

- e. *Please provide a cost estimate breakdown by County facility for the installment of UV equipment capable of treating all processed wastewater to R-1 standards for fecal coliform.*

Wailuku/Kahului WWRF: A Project Engineering Report and detailed cost estimate have not been initiated yet. Our working estimate is currently \$19.8M for design, permitting and construction.

Kihei WWRF: A Project Engineering Report and detailed cost estimate have not been initiated. A working estimate for design, permitting and construction is \$15 to \$20M.

Lahaina WWRF: None required at this time.

Kaunakakai WWRF: A Project Engineering Report and detailed cost estimates have not been initiated. A working estimate is \$3 to \$5M

Lanai WWRF: Not applicable.

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: 2022.04.20 15:37:41 -10'00'

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

cc: WWRD

CARE Committee

From: Michelle Santos <Michelle.Santos@co.maui.hi.us>
Sent: Tuesday, April 26, 2022 3:58 PM
To: CARE Committee
Cc: Eric Nakagawa; Josiah Nishita; Kayla Ueshiro; Nadine Orikasa; Robert Schmidt; Sandy Baz; Stacy Takahashi; Tyson Miyake; Zeke Kalua
Subject: MT#9614 Bill 52
Attachments: MT#9614-CARE Committee.pdf

NOTE: PLEASE DO NOT FORWARD MY EMAIL TO ANYONE OUTSIDE OF THE COUNTY OF MAUI. YOU MAY CLICK ON THE ATTACHMENT ITSELF AND CREATE YOUR OWN EMAIL TO FORWARD THE DOCUMENT TO ANOTHER PERSON OUTSIDE OF THE COUNTY.

Michelle L. Santos

Office Operations Assistant

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