



July 26, 2025

Via email to cleanwaterbranch@doh.hawaii.gov

Darryl Lum, P.E.
Clean Water Branch Chief
Department of Health
2827 Waimano Home Road, Room 225
Pearl City, Hawaii 96782

Re: Comments Opposing Draft Wailua WWTP NPDES Permit HI 0020257

Dear Mr. Lum,

Surfrider Foundation submits the following comments in opposition to the Draft Wailua Wastewater Treatment Plant NPDES Permit, HI 0020257 ("Draft Permit"). The Draft Permit fails to comply with the Clean Water Act and Hawaii state law, is not in the public interest, and endangers public health.

The County of Kaua'i has applied for a permit to allow the Wailua Wastewater Treatment Plant ("Wailua WWTP") to discharge pollution into the ocean, through Outfall 001. The outfall is approximately 30 feet deep and 670 feet offshore from Lydgate Beach Park. The ocean is designated for primary contact recreation, and Lydgate Beach Park is touted as a family-friendly beach for swimming and wading. Unfortunately, the Wailua WWTP has long been a poorly-maintained facility discharging partially-treated sewage into a popular swimming area, causing problematic odors for neighbors, and even causing sewage spills. The Department of Health must, under federal and state law and the Hawaii Constitution, revise the Draft Permit in order to comply with the law and protect public health and public trust resources before finalizing the permit.

I. The Draft Permit Limits for Enterococci are Too High and Fail to Protect Public Health.

A. The Draft Permit Sets Enterococci Limits Well Above the Recreational Water Quality Criteria.

The Draft Permit sets Enterococci effluent limits at 745 CFU/100 mL Monthly Geomean and 7,150 CFU/100 mL Daily Maximum. Draft Permit at 5. These limits are orders of magnitude greater than Hawaii's recreational water quality criteria: 35 CFU/100 mL Monthly Geomean and a Statistical Threshold Value of 130 CFU/100 mL. Hawaii Administrative Rules (HAR) § 11-54-

8(c), (d); *see also* Declaration of Barry W. Sulkin (“Sulkin Decl.”) ¶ 11, Exhibit A. As the standards themselves recognize, “These criteria are designed to protect the public from exposure to harmful levels of pathogens while participating in water-contact activities.” HAR § 11-54-8(a). The standard also mandates that “[r]aw or inadequately treated sewage... shall not be present in natural public swimming, bathing, or wading areas.” *Id.* § 11-54-8(e).

The Draft Permit Fact Sheet justifies these permit limits by selecting a zone of initial dilution of 54:1 at Outfall Serial No. 01. This dilution “was determined based on the results of a 1996 dilution study titled *Wailua WWTP Ocean Outfall Dilution Analysis*.” Fact Sheet at 15. The 1996 Dilution Study was not included with the permit application materials.¹ The Fact Sheet asserts that the Department of Health completed a quantitative reasonable potential analysis that showed “no reasonable potential for the Facility discharge to cause or contribute to an exceedance” of the water quality standards. Fact Sheet at 25.

The Fact Sheet states that “DOH’s current implementation procedures for compliance with the Enterococci standards is to establish a monthly geometric mean effluent limitation equal to the geometric mean WQS of 35 CFU/100 mL multiplied by the average dilution at the edge of the ZID.” Fact Sheet at 32.

B. The Enterococci Limits are Illegal.

1. Hawaii Regulations do not allow for a zone of initial dilution for Enterococci.

Hawaii’s regulations allow for the use of a zone of initial dilution only for toxic pollutants. Enterococci are fecal indicator bacteria, not a toxic pollutant, so Hawaii law prohibits use of a zone of initial dilution for Enterococci. *See* Sulkin Decl. ¶ 15. The Draft Permit therefore violates the law by incorporating a zone of initial dilution for Enterococci.

a. A zone of initial dilution is only allowed for toxic pollutants, not bacteria.

Hawaii’s regulations explain that “zones of mixing are defined and authorized for use in discharge permits in section 11-54-1.” HAR § 11-55-41(a). The regulations explain, “Zones of initial dilution are a subset of zones for mixing that are applied to toxic pollutants.” *Id.*; *See* Sulkin Decl. ¶ 13. This regulation was added in 2021.

Enterococci are not toxic pollutants. Sulkin Decl. ¶ 14. The Clean Water Act directs EPA to publish a list of “toxic pollutants.” 33 U.S.C. § 1317(a). EPA’s list of Toxic Pollutants is available at 40 C.F.R. § 401.15. Enterococci are fecal indicator bacteria. Sulkin Decl. ¶ 12. Their presence in the environment may indicate that other disease-causing agents such as such as viruses, bacteria and protozoa may also be present. *Id.* These pathogens can sicken swimmers

¹ Surfrider Foundation requested the 1996 Dilution Analysis in order to inform our comments. We received the study late on July 24, 2025, one business day before the close of the comment period. We requested an extension to submit comments and did not receive an extension.

and others who use rivers and streams for recreation or eat raw shellfish or fish. *Id.* Other potential health effects can include diseases of the skin, eyes, ears and respiratory tract. *Id.*

The 2021 version of the Hawaii Administrative Rules clarifies that a zone of initial dilution is only appropriate for toxic pollutants. It does not allow for the use of a zone of initial dilution for fecal indicator bacteria like Enterococci. Therefore, the Department of Health may not use a zone of initial dilution to justify setting limits for Enterococci that are above the recreational water quality criteria.

b. The history of Hawaii’s regulations demonstrates zones of initial dilution or zones of mixing are not appropriate in marine recreational waters.

Hawaii modified its water quality criteria for recreational waters in 2014 in order to comply with EPA’s 2012 Recreational Water Quality Criteria recommendations. Sulkin Decl. ¶ 17; *see also* Department of Health, “Rationale for Proposed Revisions to Department of Health Administrative Rules, Title 11, Chapter 54 Water Quality Standards” at 10 https://health.hawaii.gov/cwb/files/2013/04/Clean_Water_Branch_HAR_11-54_20141115_Rationale.pdf. Prior to this change, which adopted the current language in HAR § 11-54-8, the regulations specified that discharges must comply with Enterococci limits within 300 meters (1000 feet) of the shoreline. Sulkin Decl. ¶ 17. Specifically, “within 300 meters (one thousand feet) of the shoreline, including natural public bathing or wading area, Enterococci content shall not exceed a geometric mean of 35 CFU per 100 milliliters” and “No single sample shall exceed the single sample maximum of 104 CFU per 100 milliliters or the site-specific one-sided 75 per cent confidence limit.” Department of Health, “Rationale for Proposed Revisions to Department of Health Administrative Rules, Title 11, Chapter 54 Water Quality Standards” at 10. The state justified the change by stating that the Department of Health believes the standards will “protect the public from exposure to harmful levels of pathogens as a result of human sewage contamination while participating in water activities such as swimming, wading, surfing, and other water contact activities.” *Id.* EPA’s approval of the 2014 regulations signaled that the new regulations were at least as protective of water quality as the prior iteration.

Outfall 001 for the Wailua WWTP is 670 feet from shore. Fact Sheet at 42. The pre-2014 regulations clearly demonstrate that mixing zones and zones of initial dilution are not appropriate for bacteria discharges 670 feet from shore, in order to protect surfing, swimming, wading, and other water contact activities. The current regulations must be interpreted to be at least as protective as the pre-2014 regulations because less stringent regulations would be illegal without an antibacksliding analysis. Sulkin Decl. ¶¶ 19, 20.

2. Hawaii’s regulations require NPDES permits to apply the Enterococci Criteria.

The Clean Water Act prohibits issuances of a permit where “When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” 40 C.F.R. 122.4(d). Hawaii regulations require that “NPDES permits shall

apply and ensure compliance with... more stringent limitation[s]... [n]ecessary to meet water quality standards... established under state law or rules.” HAR § 11-55-19(a)(4)(A).

Hawaii’s permitting regulations explicitly require that “NPDES permits shall apply and ensure compliance with... recreational criteria for all State waters in section 11-54-8.” HAR § 11-55-19(a)(10). These regulations require that the Permit for the Wailua WWTP include the recreational water quality criteria as the effluent limit for Enterococci. Sulkin Decl. ¶ 21.

3. The Enterococci limits calculated using a zone of initial dilution for fails to protect the receiving water’s designated and actual uses.

a. NPDES permits must protect designated and actual uses.

Hawaii regulations require that “NPDES permits shall apply and ensure compliance with... more stringent limitation[s]... [n]ecessary to meet water quality standards... established under state law or rules.” HAR § 11-55-19(a)(4)(A); *see* Sulkin Decl. ¶ 23.

State Water Quality Standards are found in Hawaii Administrative Regulations, Title 11, Chapter 54. In addition to the recreational criteria, the water quality standards include designated uses for the State’s waters. Class A Marine Waters, at issue here, are designated for the protection and propagation of fish, shellfish, and wildlife, for recreation in and on the waters, and for aesthetic enjoyment. HAR § 11-54-3(c)(2); *see* Sulkin Decl. ¶ 23.

b. A zone of initial dilution for Enterococci does not protect primary contact recreation.

The Department of Health cannot include a zone of initial dilution or a zone of mixing for bacteria in a waterway designated for primary contact recreation. The recreational criteria were adopted to “protect the public from exposure to harmful levels of pathogens as a result of human sewage contamination while participating in water activities such as swimming, wading, surfing, and other water contact activities.” *See* Department of Health, “Rationale for Proposed Revisions to Department of Health Administrative Rules, Title 11, Chapter 54 Water Quality Standards” at 10

As EPA explains, a mixing zone “simply authorizes an applicable criterion to be exceeded within a defined area of the waterbody while still protecting the designated use of the waterbody as a whole.” EPA Water Quality Standards Handbook, Section 5.1. EPA has emphasized that a state’s mixing zone policy should ensure that “[p]ollutant concentrations within the mixing zone do not cause significant human health risks considering the likely pathways of exposure.” *Id.* Section 5.1.1.

As EPA’s NPDES Permit Writers’ Manual explains, “states may, at their discretion, include in their standards policies that generally affect how standards are applied or implemented,” including mixing zone policies. NPDES Permit Writers Manual, Sept. 2010. § 6.1.14. EPA guidance directs permit writers to determine whether state water quality standards provide for mixing zones or zones of initial dilution. *Id.* at § 6.2.2. The guidance acknowledges

that “state water quality standards or implementation policies might indicate specific... water quality criteria (e.g. pathogens...) for which consideration of” and zone of initial dilution or mixing zone is “not allowed or otherwise considered inappropriate.” *Id.*

EPA guidance acknowledges that a zone of initial dilution may be inappropriate in some instances, including where the receiving water is designated for primary contact recreation. See U.S. EPA Memorandum, ‘Initial Zones of Dilution for Bacteria in Rivers and Streams Designated for Primary Contact Recreation,’ Nov. 12, 2008. EPA emphasized, “Because people swimming [near a discharge] may ingest water containing high concentrations of bacteria and potentially pathogens--we cannot envision a circumstance where discharges that elevate bacteria beyond criteria can be viewed as protective of the primary recreation use” in rivers and streams. While the guidance was targeted to river and stream discharges, the same rationale applies to ocean discharges where the designated use is primary contact recreation and people actually recreate near the discharge—like is the case with the Wailua WWTP. Sulkin Decl. ¶¶ 24-26.

c. The proposed Enterococci limits do not protect primary contact recreation uses in the ocean off of Lydgate Park.

The Draft Permit Proposes the following limits for Enterococci:

	Monthly Geomean	Daily Maximum	Units
Enterococci	745	7,150	CFU/100 mL

These limits are more than **20 times** greater than the monthly geomean in the recreational criteria and more than **50 times** greater than the criteria’s daily maximum. Sulkin Decl. ¶ 27. This level of Enterococci threatens public health and safety and removes the primary recreation uses in this portion of the ocean. Sulkin Decl. ¶ 27.

Even if state law allowed use of a zone of initial dilution, which it does not, the permit fails to protect the primary contact recreation designated and actual uses. Neither the Draft Permit nor the Fact Sheet define the geographic boundaries of the zone of initial dilution or require monitoring to demonstrate compliance with the recreational criteria outside the zone of initial dilution. Instead, the Draft Permit only requires compliance monitoring for Enterococci at three spots along the shoreline. Draft Permit at 16 (“Shoreline monitoring data are used to assess compliance with water quality criteria specific for marine recreational waters.”).

This means that the Draft Permit proposes creating a “sacrifice zone,” removing the primary contact recreation uses for the entire portion of the ocean from the discharge to the shoreline. Sulkin Decl. ¶¶ 28, 70. The discharge can violate the water quality criteria for marine recreational waters in any portion of the ocean off Lydgate Park and still be in compliance with the Permit. Sulkin Decl. ¶¶ 28, 70.

Hawaii’s permitting regulations require that “NPDES permits shall apply and ensure compliance with... recreational criteria for all State waters in section 11-54-8.” HAR § 11-55-

19(a)(10). The regulations also mandate that “[r]aw or inadequately treated sewage... shall not be present in natural public swimming, bathing or wading areas.” HAR § 11-54-8.

4. Even if a zone of initial dilution was allowed, the Department of Health incorrectly applied state regulations related to zones of initial dilution.

State regulations set forth extensive requirements for using a zone of initial dilution or zone of mixing. The Department of Health’s failure to comply with the requirements set out in Hawaii’s regulations renders the Draft Permit illegal. *See* HAR § 11-55-41(c)(2). The regulations set forth extensive requirements that must be met for the Department of Health to approve a zone of mixing. Because a zone of initial dilution is a subset of a zone of mixing, the requirements relevant to a zone of mixing also apply to a zone of initial dilution.

a. Wailua WWTP has not shown it is receiving the best degree of treatment or control for fecal indicator bacteria.

First, a permit may not include a zone of mixing unless the application and the supporting information clearly show that the discharge “has received the best degree of treatment or control.” HAR § 11-55-41(c)(2)(D). For sewage treatment plants, disinfection using chlorine or UV treatment are considered “the best degree of treatment or control” and would lower Enterococci levels to below the recreational water quality criteria. *See* Sulkin Decl. ¶ 29.

In fact, publicly available evidence shows that the Wailua WWTP is not consistently using disinfection that would bring the Enterococci levels in the wastewater to the level that would comply with the recreational water quality criteria. The County of Kaua’i Department of Public Works admits that the Wailua WWTP periodically discharges wastewater that has not been disinfected. DEA-AFONSI for the Wailua Wastewater Treatment Plan and Effluent Disposal Improvements, Sept. 18, 2023 at 1-1 (“The end of the outfall has six 4-inch diffusers where the excess R-2 recycled water of periodic R-3 recycled water is discharged.”), attached as Exhibit B. The County explains in the DEA-AFONSI, **“In some cases, typically during high precipitation events, the WWTP is not able to treat effluent to R-2 recycled water quality standards.”** *Id.* at 2-3.²

If the County is not treating effluent with oxidation and disinfection, the discharge “has [not] received the best degree of treatment or control” and Hawaii regulations prohibit the Permit including a zone of mixing or zone of initial dilution. *See* HAR § 11-55-41(c)(2)(D); Sulkin Decl. ¶¶ 29, 30.

² The Department of Health defines “R-2” as recycled water “where the wastewater has undergone oxidation and disinfection.” *Id.* at 2-3, fn 1. In contrast, “R-3” is recycled water “where the wastewater has undergone oxidation only.” *Id.*

b. The County failed to demonstrate that the high bacteria discharges do not endanger human health or safety.

The regulations prohibit use of a zone of mixing unless “the application and the supporting information clearly show that... the discharge occurring... does not substantially endanger human health or safety.” HAR § 11-55-41(c)(2)(B). The County’s application failed to evaluate the impact the sky-high Enterococci levels in the discharge have on surfers, swimmers, and beachgoers using the ocean and beach at or near Lydgate Park. Neither the County nor the Department of Health evaluated in-ocean water quality data near the discharge, at the edge of the zone of initial dilution, or even at the edge of the zone of mixing. Nor has the County or the Department of Health held any public hearings on the current usage of the ocean at Lydgate Park and whether any users have gotten ill after ocean recreation. Instead, the Fact Sheet concludes, without support in the record, that “[n]o known information indicates that the discharge is causing or contributing to conditions that substantially endanger human health or safety.” Fact Sheet at 42. The lack of information of human impact does not mean that none has occurred. People might have become ill and not know the cause or to whom to report such. Sulkin Decl. ¶ 31. The lack of information does not mean nothing has happened. *Id.* The Department of Health cannot grant a zone of mixing based on a lack of evidence; the standard requires that the application “clearly show” that the discharge “does not substantially endanger human health or safety.”

Data available on EPA’s ECHO database shows that on March 19, 2025 and April 16, 2025, the value for Enterococci in the Wailua WWTP’s effluent was greater than 8057 CFU/100mL. Sulkin Decl. ¶ 32. This level of Enterococci means the sewage effluent has not been disinfected and likely contains pathogens that substantially endanger human health or safety. *Id.*

Further, available sampling data from Lydgate Park demonstrate that the discharges have caused violations of the Enterococci recreational water quality criteria on the beach at Lydgate Park multiple times. See Exhibit C. Specifically, the limited data show violations on the following dates:

Date	Enterococci Results in CFU / 100mL	Enterococci Maximum Criteria in CFU / 100mL
12/1/20	192	130
1/24/22	782	130
1/25/22	782	130
5/17/22	238	130

Data reflect that there have also been multiple Brown Water Advisories at Lydgate Park in 2023 and 2024 beyond those seen island-wide on May 2, 2024, April 19, 2024, November 20,

2023, October 24, 2023, February 24, 2023, February 8, 2023. Sulkin Decl. ¶ 33. These advisories suggest that the Wailua WWTP discharges are contributing to conditions that substantially endanger human health or safety. *Id.*

These results are only a snapshot of the actual impact to the public's health and safety. The available data show 15 testing results in 2024 and 4 testing results in 2025. According to the Wailua WWTP's 2019 Permit, the facility is required to test three shoreline locations five times per month, for a total of 180 shoreline data points per year. The 2019 Permit does not, however, require any in-ocean testing of Enterococci, meaning we have no data showing whether and to what extent swimmers, surfers, and other recreational users have been exposed to high levels of bacteria and pathogens when they are in the water offshore from Lydgate Park. The lack of any proof that the current discharges are NOT substantially endangering public health and the environment means that continuing the existing zone of initial dilution violates the law.

On the contrary, the effluent limit violations in 2025 and the brown water advisories in 2023 and 2024 indicate that the Wailua WWTP discharges are causing or contributing to conditions that substantially endanger human health or safety. *See* Sulkin Decl. ¶¶ 32, 33.

c. The County has not demonstrated that complying with the Enterococci recreational criteria would produce serious hardships without equal or greater benefits to the public.

The regulations prohibit use of a zone of mixing unless “the application and the supporting information clearly show that... [c]ompliance with the existing water quality standards from which a zone of mixing is sought would produce serious hardships without equal or greater benefits to the public.” HAR § 11-55-41(c)(2)(C). Here, the County provided no information in the application demonstrating potential hardship from having to comply with the bacteria water quality criteria. Sulkin Decl. ¶ 34. The Fact Sheet recognizes that the County has not met its burden to receive a zone of mixing, stating “[t]he feasibility and costs to install treatment necessary to meet applicable WQS end-of-pipe, or additional supporting information, were not provided by the Permittee to demonstrate potential hardships.” Fact Sheet at 42-43. The Fact Sheet fails to analyze the benefits to the public from requiring the Wailua WWTP to meet the Enterococci water quality criteria at the end-of-pipe. Had the Department of Health undertaken this analysis, it would have discovered that the benefits to public health and safety that gained by requiring the Wailua WWTP to meet the Enterococci water quality criteria at the end-of-pipe greatly outweigh the cost to the facility to effectively disinfect the sewage—which is relatively cheap and easy. *See* Sulkin Decl. ¶ 34.

d. The County has not demonstrated that its discharges of high levels of Enterococci does not unreasonably interfere with the uses of the water.

The regulations prohibit use of a mixing zone unless the application and supporting information show that the “discharge occurring or proposed to occur... will not unreasonably interfere with the actual or probable use” of the water. HAR § 11-55-41(c)(2)(D). The Wailua WWTP discharges to an area popular for surfing, swimming, and windsurfing. Sulkin Decl. ¶ 23.

The Department of Health violated the law by proposing a permit for the Wailua WWTP that does not meet the Enterococci limits at the end-of-pipe without the County showing that their discharges do not unreasonably interfere with the ocean recreation off Lydgate Park. *See Sulkin Decl.* ¶ 24.

- e. **The Permit cannot contain a zone of initial dilution or zone of mixing for Enterococci because there has not been a thorough review of available methods to prevent the high Enterococci discharges.**

Hawaii law is clear: “No renewal of a zone of mixing... shall be allowed without a thorough review of known and available means of preventing, controlling, or abating the discharge involved.” HAR § 11-55-41(d)(5). Neither the Draft Permit nor the Fact Sheet shows that the Department of Health undertook a “thorough review of known and available means of preventing, controlling, or abating” Enterococci discharge. *Sulkin Decl.* ¶ 35. Therefore, the Permit cannot contain a zone of initial dilution for Enterococci and the effluent limit for Enterococci must be at least as stringent as the recreational water quality criteria.

6. The Permit must require Compliance with Enterococci recreational water quality criteria at the end of the pipe.

Because a zone of initial dilution cannot be used here, the Wailua WWTP must meet water quality standards at the discharge point. *Sulkin Decl.* ¶¶ 16, 21; *see also* NPDES Permit Writers Manual, Sept. 2010. § 6.2.3., “Where consideration of a dilution allowance or mixing zone is not permitted by the water quality standards or is not appropriate, the relevant water quality criterion must be attained at the point of discharge.”

Therefore, the Permit must be modified to include effluent limits at least as stringent as the recreational water quality criteria:

	Monthly Geomean	Daily Maximum	Units
Enterococci	35	130	CFU/100 mL

Sulkin Decl. ¶ 36.

C. Wailua WWTP may not discharge sewage that has not been disinfected.

Hawaii regulations state, “It is the public policy of this State... to provide that no waste be discharged into any State waters without first being given the degree of treatment necessary to protect the beneficial uses of the waters.” HAR § 11-55-02(a)(3). Hawaii regulations also state that Class A Marine Waters “shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class.” HAR § 11-54-3(c)(2).

a. The Wailua WWTP does not always disinfect its wastewater.

The County of Kaua'i Department of Public Works admits that the Wailua WWTP periodically discharges wastewater that has not been disinfected. *See* Exhibit B at 1-1 ("The end of the outfall has six 4-inch diffusers where the excess R-2 recycled water of periodic R-3 recycled water is discharged."). The County explains in the DEA-AFONSI, "In some cases, typically during high precipitation events, the WWTP is not able to treat effluent to R-2 recycled water quality standards." *Id.* at 2-3. R-2 as recycled water has undergone disinfection, while R-3 recycled water has undergone oxidation only. *Id.*

b. The County's failure to disclose its periodic failure to disinfect its wastewater violates the law.

Nowhere in the County's application materials for the renewed NPDES Permit did it disclose its periodic inability to disinfect its partially-treated sewage before discharging it to the ocean. Sulkin Decl. ¶ 30. Indeed, the County's EPA Application Form 2A indicates that the facility uses chlorine disinfection and shows a Chlorine Contact Tank on the "Existing Process Flow Schematic" prior to the wastewater heading to the Wailua Golf Course or the Ocean Outfall. Form 2A at 8, Exhibit D. The County's failure to disclose that it sometimes discharges partially-treated sewage that has not been disinfected into the ocean at Lydgate Park is a serious violation of the law and public trust.

Hawaii regulations require an applicant to submit "complete data, site information, plan description, specifications, drawings, and other detailed information." HAR § 11-55-4(c). Such information "shall comply with 40 C.F.R. 122.21(f) through (l)." *Id.* Those federal regulations require "a description of the type of disinfections used, and whether the treatment plant dechlorinates." 40 C.F.R. 122.21(j)(3)(iii)(B). The County's application reflects that it uses chlorine to disinfect the waste. The County's failure to mention that it sometimes does not disinfect the partially-treated sewage violates Hawaii and federal law.

c. The Wailua WWTP has recently violated its Enterococci effluent limits.

Despite having staggeringly high limits for Enterococci in the 2019 Permit, the Wailua WWTP is still violating those limits. According to data available on EPA's ECHO database, on March 19, 2025 and April 16, 2025, the value for Enterococci was greater than 8057 CFU/100mL. Sulkin Decl. ¶ 32. This demonstrates that the Wailua WWTP has an ongoing issue with Enterococci that it has not fixed.

d. The County does not have a plan to fix its disinfection problem.

The County of Kaua'i Department of Public Works has a plan to update the Wailua Wastewater Treatment Plant and complete Effluent Disposal Improvements. *See* Exhibit B; *see also* Ex. D at 5. The County admits that "during high precipitation events, the WWTP is not able to treat effluent" with disinfection. Exhibit B at 2-3. Instead of fixing the disinfection problem,

the County claims it needs to upgrade the diffusers to discharge non-disinfected wastewater to the ocean rather than to the holding ponds at the Wailua Municipal Golf Course.

But even that plan violates the law. Hawaii's Recycled Water Reuse Guidelines set forth suitable uses for R-1, R-2, and R-3 water. While spray irrigation with R-2 is generally prohibited, it is allowed if there is an adequate buffer of "(1) separation distance of 500 feet, (2) physical barrier such as a wall or cliff, (3) tall and dense vegetation, or (4) irrigating with potable water in the buffer area." Notably, the policy does not define an "adequate buffer" as "spraying at night when the publicly accessible area is unused." Further, the policy requires R-1 water for "irrigation storage reservoirs and ponds." The DEA-AFONSI explains that there is an "R-2 recycled water force main that runs between the Wailua WWTP and the irrigation holding pond at the Wailua Municipal Golf Course." Ex. B at 2-1. The Recycled Water Use Guidelines requires irrigation ponds to use R-1 water, not R-2 water as is the plan with the Wailua Municipal Golf Course.

The County's entire plan to "fix" the Wailua WWTP's discharge woes by clearing the diffuser so R-3, undisinfected wastewater, can be discharged into the ocean still leaves the WWTP and the Wailua Municipal Golf Course breaking the rules. Nowhere does the DEA-AFONSI evaluate a plan to ensure that the Wailua WWTP can actually disinfect the sewage it accepts.

The Department of Health cannot issue a new permit to the Wailua WWTP until the Enterococci limits are set to the recreational water quality criteria at the end-of-pipe, and the County has a plan to fix the facility's disinfection issues.

II. The Draft Permit Limits Are Too High to Address Existing Turbidity Issues.

The Draft Permit limit fails to set effluent limits that address the existing Turbidity problem at Lydgate Park. The Permit must set lower limits for Turbidity to comply with the law.

A. The ocean at Lydgate Park is impaired for turbidity.

The Clean Water Act requires states to identify waterbodies that fail to meet water quality standards. Every two years, states must identify impaired waterbodies and place them on a 303(d) list, which is reviewed and approved by EPA.

The "Pacific Ocean at Lydgate Park" is listed as impaired for turbidity. Fact Sheet at 7. This means that the water quality at Lydgate Park does not meet water quality standards. Sulkin Decl. ¶ 37. It is our understanding that the state has not completed, and has no plans to complete, a Total Maximum Daily Load to address the sources of turbidity.

B. The Draft Permit sets limits above the Water Quality Standards for Turbidity.

The Draft Permit sets effluent limits for turbidity that are above the water quality standards, as set forth below:

Pollutant Conditions	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time	Draft Permit
Turbidity (NTU) Wet Weather	0.5	1.25	2	410 annual geomean
Turbidity (NTU) Dry Weather	0.2	0.5	1	410 annual geomean

Sulkin Decl. ¶ 40.

C. The Permit Cannot Contain a zone of mixing for Turbidity.

The Draft Permit sets the turbidity limit significantly higher than the dry weather turbidity water quality standard for geometric mean. The Fact Sheet explains that it applied a zone of mixing to allow the Wailua WWTP to greatly exceed the turbidity water quality standard at the discharge point.

1. There is no assimilative capacity for turbidity in the receiving water.

Hawaii law prohibits a permit from containing a zone of mixing “unless the application and the supporting information clearly show that... [t]he capacity of the receiving water to dilute a pollutant or assimilative capacity is available in the receiving water for the pollutant in which a zone of mixing is being requested.” HAR § 11-55-41(c)(2)(E).

The Fact Sheet concludes that “there is assimilative capacity” for Turbidity by “comparing the annual geometric means to the applicable WQS.” Fact Sheet at 14. The Fact Sheet does not show the data used to determine there is assimilative capacity for Turbidity. The Fact Sheet claims that “ZOM monitoring data results for ammonia nitrogen, total nitrogen, total phosphorus, and turbidity provided by the Permittee are included in Appendix 2 of this Fact Sheet.” Fact Sheet at 40. Appendix 2 to the Fact Sheet is entitled “Compliance History Tables” and spans pages 57 and 58. It contains no data about ammonia nitrogen, total nitrogen, total phosphorus, or turbidity. Sulkin Decl. ¶ 39.

The Department of Health’s approach to Turbidity and its assimilative capacity is erroneous because the Department of Health failed to take into account that the receiving water is impaired for turbidity. This, by definition, means that there is already too much of that pollutant in the waterbody and there is no additional assimilative capacity. Sulkin Decl. ¶ 38.

As EPA explains in the NPDES Permit Writer's Manual, "the use and size of the mixing zone must be limited such that the waterbody as a whole will not be impaired." NPDES Permit Writers Manual, Sept 2010 at 6-21, Exhibit E.

2. The County has not demonstrated that complying with the Turbidity water quality criteria would produce serious hardships without equal or greater benefits to the public.

The regulations prohibit use of a zone of mixing unless "the application and the supporting information clearly show that... [c]ompliance with the existing water quality standards from which a zone of mixing is sought would produce serious hardships without equal or greater benefits to the public." HAR § 11-55-41(c)(2)(C). Here, the County provided no information in the application demonstrating potential hardship from having to comply with the Turbidity water quality criteria. The Fact Sheet recognizes that the County has not met its burden to receive a zone of mixing, stating "[t]he feasibility and costs to install treatment necessary to meet applicable WQS end-of-pipe, or additional supporting information, were not provided by the Permittee to demonstrate potential hardships." Fact Sheet at 42-43. The Fact Sheet fails to analyze the benefits to the public from requiring the Wailua WWTP to meet the Turbidity water quality criteria at the end-of-pipe. Because the County has not met its evidentiary burden in order to avail itself of a zone of mixing for Turbidity, the Permit cannot contain a zone of mixing for Turbidity.

3. Wailua WWTP has not shown it is receiving the best degree of treatment or control for Turbidity.

A permit may not include a zone of mixing unless the application and the supporting information clearly show that the discharge "has received the best degree of treatment or control." HAR § 11-54-9(b). There are a number of technologies that can be used to reduce turbidity in sewage treatment plant effluent, including chemical treatment, physical filtration, and advanced technologies. Sulkin Decl. ¶ 41. If the County is not treating its effluent with available technologies to reduce turbidity, the discharge "has [not] received the best degree of treatment or control" and Hawaii regulations prohibit the Permit including a zone of mixing or zone of initial dilution. *See* HAR § 11-54-9(b).

4. The Permit cannot contain a zone of mixing for Turbidity because there has not been a thorough review of available methods to prevent the high Turbidity discharges.

Hawaii law is clear: "No renewal of a zone of mixing... shall be allowed without a thorough review of known and available means of preventing, controlling, or abating the discharge involved." HAR-11-55-41(d)(5). Neither the Draft Permit nor the Fact Sheet shows that the Department of Health undertook a "thorough review of known and available means of preventing, controlling, or abating" Turbidity in the facility's discharge. Sulkin Decl. ¶ 42. Therefore, the Permit cannot contain a zone of mixing for Turbidity and the effluent limit for Enterococci must be at least as stringent as the water quality criteria.

D. The Permit must set turbidity standards that address the existing impairment.

Because the receiving water is impaired and there is no assimilative capacity for turbidity and the County has failed to meet its burden to secure a zone of mixing for Turbidity, the Permit must set the effluent limitations as equal to the water quality criteria at the end-of-pipe:

Pollutant Conditions	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Turbidity (NTU) Wet Weather	0.5	1.25	2
Turbidity (NTU) Dry Weather	0.2	0.5	1

Sulkin Decl. ¶ 43.

The Permit must ensure that there are turbidity limits for both wet weather and dry weather, or adopt the more protective dry weather criteria for limits during all weather conditions. *See* Sulkin Decl. ¶ 61. The Permit must also include monitoring requirements sufficient to assure compliance with the permit limits. *See* Sulkin Decl. ¶¶ 66-72.

III. The Draft Permit Improperly Fails to Include Effluent Limits for Nutrients.

The Wailua WWTP has had nutrient pollution issues for years. Sulkin Decl. ¶ 44. More than a decade ago, the Department of Health acknowledged that the Wailua WWTP had a serious nutrient pollution issue and established a compliance schedule for the facility to meet state water quality standards. Sulkin Decl. ¶ 45. Instead of upgrading the sewage treatment plant's facilities to address nutrient pollution, the Department of Health invented new math and ignored data showing that the discharges were, in fact, violating water quality standards. *Id.* In 2019, the Department of Health found there was no reasonable potential for the facility to violate the nutrient water quality standards, and only included limited monitoring in the permit. *Id.* This Permit must fix the historical errors in permitting and include robust nutrient limits to protect water quality offshore of Lydgate Park.

A. The 2013 Permit recognized serious nutrient issues at the Wailua WWTP.

The 2013 Permit included effluent limits for ammonia nitrogen and nitrate + nitrite nitrogen. 2019 Permit Fact Sheet at 16; Exhibit F. The 2013 Permit required "nearly complete removal of ammonia nitrogen." 2015 Final Report, Effluent Limits Compliance Alternatives Study Evaluation at 1. Exhibit G. The 2013 Permit included a compliance schedule allowing the

Wailua WWTP almost 10 years to “identify and implement improvements to meet the final effluent limits.” *Id.*

Table ES-1. Wailua WWTP Nutrient Limitations

Parameter ^(a)	Discharge Limitations ^(b)		
	Geometric Mean ^(c)	Single Sample Maximum	Units
Ammonia - Nitrogen	3.5	8.5	µg/L
	0.04	0.11	lbs/day
Nitrate +Nitrite – Nitrogen	--	24,400	µg/L
	--	305	lbs/day
Total Nitrogen	--	(a)	µg/L
	--	(a)	lbs/day
Total Phosphorus	--	(a)	µg/L
	--	(a)	lbs/day
Ammonia-Nitrogen (Interim)	4,536	21,100	µg/L
	56.7	264	lbs/day

Notes:

- (a) Monitoring and reporting of parameter analytical test results is required.
 - (b) Monitoring required on a monthly basis using 24-hour composite samples on both influent and effluent.
 - (c) Geometric mean to be evaluated on a calendar year basis.
- µg/L = micrograms per liter.
lbs/day = pounds per day.

B. The 2019 Permit “solved” the nutrient problem by removing effluent limits and only requiring periodic monitoring.

The Wailua WWTP continued to have nutrient pollution issues from 2013-2018. Sulkin Decl. ¶ 44. The 2019 Permit Fact Sheet reported the following data from 2013-2018:

Parameter	Units	Effluent Limitation			Reported Data ¹		
		Average Monthly	Average Weekly	Maximum Daily	Average Monthly	Average Weekly	Maximum Daily
Ammonia Nitrogen	µg/L	3.5 ⁶ 4,536 ^{6,7}	--	8.5 21,000 ⁷	326 ⁸	--	2,900
	lbs/day	0.04 ⁶ 56.7 ^{6,7}	--	0.11 264 ⁷	1.2 ⁸	--	12
Nitrate + Nitrite Nitrogen	µg/L	--	--	24,400	--	--	41,990
	lbs/day	--	--	305	--	--	130
Total Phosphorus	µg/L	--	--	2	--	--	6,200
	lbs/day	--	--	2	--	--	22.04

⁶ Effluent limitation established as an annual geometric mean.

⁷ Interim effluent limitations.

The 2019 Permit Fact Sheet also included the follow compliance history for Nitrate + Nitrite Nitrogen:

Parameter	Units	Reported Results	Effluent Limitation		Number of Exceedances
			Type	Limit	
Nitrate + Nitrite Nitrogen	µg/l	25,000 – 41,990	Daily Max	24,000	29

The 2019 Fact Sheet states that the reasonable potential analysis determined there was no reasonable potential for the Wailua WWTP to violate the Ammonia Nitrogen water quality standards—even though the facility was under a compliance schedule to bring the facility into compliance with the water quality standards and the daily maximum reported was 2,900 ug/L compared to a water quality standard daily maximum of 8.5 ug/L. Sulkin Decl. ¶ 45.

Additionally, the 2019 Permit Fact Sheet includes a summary of the geometric mean values calculated from the offshore monitoring locations are as follows:³

Table F-10. Offshore Monitoring Stations Results

Parameter	Highest Annual Geometric Mean by Station					
	S1	S2	S3	S4	S5	S6-Control
Total Nitrogen (µg/L)	157	133	121	133	122	137
Ammonia Nitrogen (µg/L)	2.4	6.3	3.2	3.6	3.1	3.7
Nitrate + Nitrite Nitrogen (µg/L)	9.6	4.5	9.8	5.1	5.9	4.4

The monthly average water quality standard for Ammonia Nitrogen is 3.5 ug/L for wet weather and 2 ug/L for dry weather. Sulkin Decl. ¶ 50. Stations S2 and S4 exceeded the wet weather standard 6.3 ug/L and 3.6 ug/L respectively, and all stations exceeded the dry weather standard. *Id.* Even more alarming is that the control station reported 3.7 ug/L—above the water quality standard—meaning there is no assimilative capacity in the receiving water for additional ammonia nitrogen. *See id.*

Additionally, the water quality standard for Total Nitrogen is 150 ug/L in wet weather and 110 ug/L in dry weather. Sulkin Decl. ¶ 50. All six offshore monitoring stations exceeded the dry weather standard and station S1 exceeded the wet weather standard. *Id.* The Nitrate + Nitrite Nitrogen monthly average water quality standard is 5 ug/L in wet weather and 3.5 ug/L in dry weather. *Id.* Stations S1 and S3 exceeded the wet weather standard and all the stations exceeded the dry weather standard. *Id.* The data was not differentiated between wet and dry weather to better understand these water quality standard violations. *Id.*

In sum, the actual data from the edge of the zone of mixing demonstrated that the effluent—even after mixing—was violating the water quality standards. However, the data the County submitted in support of its zone of mixing shows a much more complimentary--and incomplete picture of pollution in the waters off Lydgate Park. Sulkin Decl. ¶ 51.

³ 2019 Fact Sheet at 27.

Unlike the Offshore Monitoring Data, which demonstrate that the discharges are in fact violating the water quality standards, the data provided in support of a zone of mixing, purport to show that the water quality is well within the standards. Sulkin Decl. ¶ 51.

Table F-8. ZOM Monitoring Data

Parameter	Units	Applicable Water Quality Standard	Maximum Reported Geometric Mean Concentration or Range ¹
Total Nitrogen	µg/L	150 ²	130
Ammonia Nitrogen	µg/L	3.5 ²	2.3
Nitrate + Nitrite	µg/L	5.0 ²	4.5

Therefore, the Reasonable Potential analysis determining that there was no reasonable potential for the Wailua WWTP to violate the nutrient water quality standards was patently false—evidence shows that the facility was, in fact, violating the water quality standards. In particular, the conclusion that “based on receiving water data submitted between 2014 and 2018, all ZOM stations appear to be in compliance with” water quality standards is not supported by the actual offshore monitoring data in Table F-10. The 2019 Permit therefore unlawfully included a zone of mixing for nutrients. *See* Sulkin Decl. ¶ 48.

Furthermore, the 2019 permit violated the State’s antidegradation policy. *See* HAR § 11-54-1.1. That policy requires “that the existing quality of waters be maintained unless degradation is justified based on specific findings demonstrating that allowing lower water quality is necessary to accommodate economic or social development in the area in which the waters are located.” *See* 2019 Fact Sheet at 25.

Yet, the Department of Health failed to complete an antidegradation analysis and make the necessary findings. Instead, it summarily concluded that the “impact on existing water quality will be insignificant.” *Id.* The Department of Health’s rollback of nutrient limits violated the antidegradation policy.

The Department of Health failed the public in 2019 when it issued the Wailua WWTP permit without stringent nutrient limits.

C. The Department of Health failed to provide evidence in the record supporting its determination that the Permit does not need nutrient limits.

The Draft Permit and Fact Sheet arbitrarily conclude that the Wailua WWTP discharges have no reasonable potential to violate nutrient water quality standards, in violation of the law.

1. The 2017 Dilution Study is Flawed.

The Draft Permit relies on a 2017 Dilution Study to conclude that the dilution of 820:1 was appropriate. Fact Sheet at 16. This dilution rate is based on study conditions that do not

reflect either typical or worst-case-scenario conditions at the discharge. Sulkin Decl. ¶ 52. Specifically, the study's flow was too low and the winds were too gentle to represent conditions at the discharge among the range of actual conditions at the discharge. Because the conditions during the study were particularly favorable to show limited impact from the discharge, they do not support a conclusion that a 820:1 dilution in the zone of mixing is sufficient to protect water quality. Sulkin Decl. ¶ 56.

The 2017 Dilution Study is based on a flow rate lower than actual flows seen from the Wailua WWTP. Sulkin Decl. ¶ 53. Specifically, the 2017 Dilution Study is based on tests done nearly a decade ago, on May 25 and 26, 2016. 2017 Dilution Study Section 3.1. According to the study, the "effluent flow rate averaged... 0.23 mgd... then abruptly increased to 0.45 mgd" for approximately 10 hours "when it abruptly dropped back to 0.23 mgd." *Id.*

This flow rate is not representative of actual recent flows through the Wailua WWTP outfall. Sulkin Decl. ¶ 53. ECHO data available from EPA's website shows much higher flows from 2022-2024 than the 2017 Dilution study reflects. *Id.* The ECHO data reports a maximum flow of 1.19 mgd for April 2024. *Id.*

EPA guidance instructs that "with municipal ocean outfalls, an increase in flow causes a decrease in dilution..." Dilution Models for Effluent Discharges, Third Edition, June 1994 at 16. Exhibit H. This principle bears out when comparing the 1996 Dilution Study with the 2017 Dilution Study. The 1996 Dilution Study modeled the dilution "using the plant design flow of 1.5 mgd," resulting in a dilution factor of 55. 1996 Dilution Study, Exhibit I. In contrast, the 2017 Dilution Study used a range of flows from 0.23 mgd and 0.45 mgd and concluded the dilution factor was 820. 2017 Dilution Study at 33, 37, Exhibit J.

The 2017 Dilution Study was also done on a day with light winds. Sulkin Decl. ¶ 55. The 2017 Dilution Study reports that the winds were onshore at 1 to 3 meters per second, or 2.2 to 6.7 miles per hour. Sources report that typical tradewinds blow from 5 -15 miles per hour. *Id.*

Best practices for dilution studies are to conduct the study under critical conditions. Sulkin Decl. ¶ 56. In this case, that would be at highest flow and strongest onshore winds. *Id.* Because the 2017 Dilution Study was not conducted in these conditions, the Department of Health cannot rely on it to set a dilution factor of a zone of mixing that protects water quality. *Id.*

2. The Draft Permit and Fact Sheet fail to include actual monitoring data to compare offshore water quality with modeled predictions.

Unlike the 2019 Permit Fact Sheet, the Fact Sheet fails to include actual Offshore Monitoring data that the Department of Health and the public could use to determine whether the existing discharges were actually violating water quality standards. Sulkin Decl. ¶¶ 49, 57.

The 2019 Permit included table F-10, Offshore Monitoring Station Results, that summarized monitoring data from each offshore monitoring station. Sulkin Decl. ¶ 57. The current Fact Sheet omits this data. Instead, Table A-1-6 reflects that 224 zone of mixing samples collected between January 1, 2020 and December 31, 2024 were used to determine the

reasonable potential for Ammonia Nitrogen, while 225 samples from the same period were used to determine the reasonable potential for Total Nitrogen and Total Phosphorus. *Id.* There was no data included for Nitrate + Nitrite Nitrogen. Fact Sheet at 56. Sulkin Decl. ¶ 57.

The Department of Health’s reliance on zone of mixing station monitoring data not included or summarized with the application materials or draft permit and not publicly available through the ECHO database is problematic based on the facility’s inconsistent discharge schedule. Sulkin Decl. ¶ 58. Specifically, the Wailua WWTP only discharges approximately 180 days per year. Sulkin Decl. ¶ 58. The 2019 Permit required offshore water quality monitoring at the edge of the zone of mixing by grab sample once per quarter. *Id.* The 2019 Permit—and the Draft Permit—do not require the samples to be taken when the Wailua WWTP is actually discharging. *Id.* The Wailua WWTP could be taking Offshore Monitoring Samples on days when the facility is not discharging, leading to sampling results that merely reflect background water quality, not the effect of the discharge on the receiving water.

3. The Department of Health failed to perform a Reasonable Potential Analysis for Nitrate + Nitrite Nitrogen or to set an effluent limitation to protect water quality.

The 2013 Permit included a daily maximum of Nitrate + Nitrite Nitrogen of 24,400 ug/L. *See* 2019 Fact Sheet at 6. Monitoring data from 2013-2018 showed a maximum daily amount of 41,990 ug/L. *Id.* The 2019 Fact Sheet also reflected 29 exceedances of the Nitrate + Nitrite Nitrogen limits in the 2013 Permit between 2013 and 2018. *See* 2019 Fact Sheet at 6. The water quality standard for Nitrate + Nitrite Nitrogen is as follows:

Pollutant Conditions	Geometric mean not to exceed the given value	Not to exceed the given value more than ten per cent of the time	Not to exceed the given value more than two per cent of the time
Nitrate + Nitrite Nitrogen (ug/L) Wet Weather	5	14	25
Nitrate + Nitrite Nitrogen (ug/L) Dry Weather	3.5	10	20

The 2019 Permit removed Nitrate + Nitrite Nitrogen limits, despite evidence that the Wailua WWTP was not meeting the 2013 Permit limits, which were already well above the water quality standard. Sulkin Decl. ¶ 59. Further, the Offshore Monitoring Station results showed Stations S1 and S3 exceeded the wet weather standard and all the stations exceeded the dry weather standard. *See* 2019 Fact Sheet at 27. The 2019 Permit removed limits to Nitrate + Nitrite Nitrogen and admitted that the permit conditions were less stringent than the 2013 Permit limits. *See* 2019 Fact Sheet at 25. The Department of Health based this on cherry-picked zone of

mixing data the County submitted in support of its zone of mixing application, which the Department of Health characterized as “based on receiving water data submitted between 2014 and 2018, all ZOM stations appear to be in compliance” with the water quality standards. Sulkin Decl. ¶ 59; 2019 Fact Sheet at 29. This conclusion is directly contradicted by the Offshore Monitoring data provided in Table F-10, which show water quality violations. Sulkin Decl. ¶ 59.

Further, the Department of Health did not complete an antidegradation analysis justifying removal of the Nitrate + Nitrite Nitrogen limits in the permit in violation of the law. Sulkin Decl. ¶ 60.

The Department of Health further erred by failing to evaluate the necessity of effluent limits for Nitrate + Nitrite Nitrogen in the Draft Permit. The Fact Sheet states that “pollutants for which a ZOM has been previously approved will retain the ZOM,” including Nitrate + Nitrite Nitrogen. Fact Sheet at 43; Sulkin Decl. ¶ 60. But the Department of Health failed to perform a Reasonable Potential Analysis for Nitrate + Nitrite Nitrogen, as reflected in Table A-1-5, RPA Results, and Table A-1-6 Range of Data Used in RPA and Monitoring Analysis. Fact Sheet at 54-55; Sulkin Decl. ¶ 60. Indeed, the Department of Health completely removed all monitoring requirements for Nitrate + Nitrite Nitrogen, as reflected in the Offshore Water Quality Monitoring requirements. Draft Permit at 17.

The Department of Health’s decision to remove Nitrate + Nitrite Nitrogen limits in 2019 and remove all monitoring requirements for Nitrate + Nitrite Nitrogen violates antidegradation requirements, is arbitrary and capricious, and violates the law. *See* Sulkin Decl. ¶ 60.

D. The Draft Permit fails to protect water quality during wet and dry conditions.

The water quality standards for nutrients have different values for “wet” and “dry” conditions. Sulkin Decl. ¶ 61. “Wet” criteria apply when the open coastal waters receive more than three million gallons per day of fresh water discharge per shoreline mile, while “Dry” criteria apply when the open coastal waters receive less than three million gallons per day of fresh water discharge per shoreline mile. HAR § 11-54-6(b)(3). The “dry” criteria are more stringent than the “wet” criteria, for all nutrients. Sulkin Decl. ¶ 61.

The Department of Health failed to recognize this two-tiered criteria in developing the Draft Permit. Sulkin Decl. ¶ 61. Instead, the Department of Health only relied on the less stringent “wet” criteria in determining that there was no reasonable potential for the Wailua WWTP to violate water quality standards. *Compare* “Applicable WQS” in the Table A-1-5 RPA Results with the receiving water quality standards in HAR § 11-54-6(b)(3). The Department of Health’s failure to either use both “wet” and “dry” criteria as appropriate, or use the more protective “dry” criteria across the board means that the Draft Permit fails to protect water quality.

E. The Draft Permit fails to address Ammonium, which is listed as impaired at Lydgate Park.

The Fact Sheet states that the receiving water, the Pacific Ocean at Lydgate Park, is listed as impaired on the 303(d) list for Ammonium and Turbidity. Fact Sheet at 7. Ammonium (NH₄), is also known as Ammonia Nitrogen in Hawaii's water quality standards. HAR § 11-54-6(b)(3); Sulkin Decl. ¶ 62.

The 2019 Fact Sheet stated that ammonia nitrogen limits "are not included in the draft permit due to no reasonable potential to cause or contribute to an excursion above State WQS parameters." 2019 Fact Sheet at 31. However, the 2019 Fact Sheet did not indicate that the receiving water was listed as impaired for ammonia nitrogen. 2019 Fact Sheet at 5; Sulkin Decl. ¶ 63. A new 303(d) listing indicates that the Wailua WWTP has, in fact, caused or contributed to the violation of the ammonia nitrogen water quality standard.

Because the receiving water is impaired for ammonia nitrogen and the Wailua WWTP is a sewage treatment plant discharging nutrients, there is a reasonable potential that the facility may be violating water quality standards. The Fact Sheet inappropriately concluded that "there is assimilative capacity" for ammonia nitrogen in the receiving water. Fact Sheet at 14. Impaired waters, by definition, do not have capacity to assimilate additional pollution for which they are impaired. Sulkin Decl. ¶ 38. The Fact Sheet also represents that "ZOM monitoring data results for ammonia nitrogen... provided by the Permittee are included in Appendix 2 of this Fact Sheet." Fact Sheet at 40. Appendix 2 contains no monitoring data for ammonia nitrogen. Fact Sheet at 57-58. Therefore, the Department of Health's conclusion that there is no reasonable potential for the Wailua WWTP's discharges to violate the ammonia nitrogen water quality standards is arbitrary capricious and not supported by evidence in the record.

Therefore, the Draft Permit, without ammonia nitrogen limits, fails to protect water quality in the receiving waters and is therefore illegal. The final Permit must include ammonia nitrogen limits.

F. The County Failed to demonstrate that it met all the requirements for applying a zone of mixing for Nutrients.

1. Wailua WWTP has not shown it is receiving the best degree of treatment or control for nutrients.

A permit may not include a zone of mixing unless the application and the supporting information clearly show that the discharge "has received the best degree of treatment or control." HAR § 11-54-9(b). For sewage treatment plants, there are multiple options to control nutrients in order to meet the water quality criteria. Sulkin Decl. ¶ 64.

The County identified several options for improving the treatment processes at the Wailua WWTP in order to meet the nutrient limits back in 2015. Sulkin Decl. ¶ 46. However, those improvements were not implemented in order to reduce the nutrient pollution from the facility. Sulkin Decl. ¶ 47.

If the Wailua WWTP discharge is not receiving treatment to reduce nutrients, it “has [not] received the best degree of treatment or control” and Hawaii regulations prohibit the Permit including a zone of mixing or zone of initial dilution. *See* HAR § 11-55-41(c)(2)(D).

2. The County has not demonstrated that complying with the Nutrient water quality criteria would produce serious hardships without equal or greater benefits to the public.

The regulations prohibit use of a zone of mixing unless “the application and the supporting information clearly show that... [c]ompliance with the existing water quality standards from which a zone of mixing is sought would produce serious hardships without equal or greater benefits to the public.” HAR § 11-55-41(c)(2)(C). Here, the County provided no information in the application demonstrating potential hardship from having to comply with the nutrient water quality criteria. The Fact Sheet recognizes that the County has not met its burden to receive a zone of mixing, stating “[t]he feasibility and costs to install treatment necessary to meet applicable WQS end-of-pipe, or additional supporting information, were not provided by the Permittee to demonstrate potential hardships.” Fact Sheet at 42-43. The Fact Sheet fails to analyze the benefits to the public from requiring the Wailua WWTP to meet the nutrient water quality criteria at the end-of-pipe.

3. The existing water quality violation prohibits a zone of mixing for Ammonia Nitrogen.

Hawaii law states that “No zone of mixing shall be established or approved by the director unless the application and the supporting information clearly show that... The discharge occurring or proposed to occur does not violate applicable water quality standards contained in chapter 11-54.” HAR § 11-55-41(c)(2)(D). The ocean at Lydgate Park is impaired for Ammonia Nitrogen, meaning that the existing Wailua WWTP is causing or contributing to violations of the Ammonia Nitrogen water quality standards. Under the law, the Permit may not contain a zone of mixing for Ammonia Nitrogen.

4. The Permit cannot contain a zone of mixing for nutrients because there has not been a thorough review of available methods to prevent the high nutrient discharges.

Hawaii law is clear: “No renewal of a zone of mixing... shall be allowed without a thorough review of known and available means of preventing, controlling, or abating the discharge involved.” HAR § 11-55-41(d)(5). Neither the Draft Permit nor the Fact Sheet shows that the Department of Health undertook a “thorough review of known and available means of preventing, controlling, or abating” the nutrient discharge. Sulkin Decl. ¶ 65. Therefore, the Permit cannot contain a zone of mixing for nutrients.

IV. The Draft Permit's Monitoring Fails to Protect Water Quality.

The Draft Permit includes monitoring requirements that fail to protect water quality. Sulkin Decl. ¶ 66. Information included in the DEA-AFONSI for Wailua WWTP and Effluent Disposal Improvements explains the nuances of the Wailua WWTP's discharges. *See* Exhibit B at 1-1. During "non-rainy months (April to September), treated effluent is discharged from the WWTP through the existing ocean outfall from Tuesday morning to Thursday morning (about three days of flow per week)." *Id.* However, "during the rainy season (October through February), the... flows are routed predominantly through the ocean outfall." *Id.*

Given this unique discharge pattern, the Permit must modify the monitoring requirements as proposed in the Draft Permit in order to gather information to evaluate whether the effluent discharges are violating water quality standards. Sulkin Decl. ¶ 66.

A. The Shoreline Water Quality Monitoring Requirements fail to demonstrate compliance with Marine Recreation Water Quality Criteria.

The Draft Permit contains Shoreline Monitoring Requirements "to assess compliance with water quality criteria specific for marine recreational waters." Draft Permit at 16. The monitoring as proposed is problematic for two reasons. First, by requiring compliance with the Enterococci limits only at the shoreline, the Department of Health is allowing the discharges to violate the water quality standard within the water—by definition failing to protect the primary contact recreation designated use. Sulkin Decl. ¶¶ 67, 70. The Permit must, if it includes a zone of initial dilution (which it cannot legally do), require compliance with the water quality standard at the edge of the zone of initial dilution, not at the shoreline. Sulkin Decl. ¶ 67.

Second, the Shoreline Monitoring Requirements direct the County to test water quality five times per month. Sulkin Decl. ¶ 68. If these requirements were spaced evenly throughout the month, they would frequently fall on days when the facility is not discharging, particularly in the non-rainy months when it only discharges Tuesday morning through Thursday morning. *Id.* To the extent that the Permit requires Shoreline Monitoring Requirements, the Permit must specify that the County must collect five samples per month and that the monitoring must be done on days when the facility is discharging. *Id.*

B. The Offshore Water Quality Monitoring Requirements fail to demonstrate compliance with Water Quality Standards.

The Draft Permit contains Offshore Water Quality Monitoring "to assess compliance with State WQS." Fact Sheet at 17. The Offshore Water Quality Monitoring requires a grab sample to be tested once quarterly. Sulkin Decl. ¶ 69. Nowhere does the Draft Permit specify that the testing must be on a day when the Wailua WWTP is actually discharging. *Id.* This means that the County can take its Offshore Water Quality Monitoring on a day when the facility is not actually discharging and merely report the background water quality, not the effect of the effluent discharge on water quality. *Id.* The final permit must require that Offshore Water Quality Monitoring be done on a day when the Wailua WWTP is actually discharging. Sulkin Decl. ¶¶ 69, 71.

C. The Permit must include more frequent monitoring.

The Permit must include more frequent monitoring to ensure compliance with effluent limits and water quality criteria. Many of the pollutants have both daily maximum limits and monthly geomean limits. Yet the Draft Permit only requires grab samples once a month to show compliance with the monthly geomean. In order to effectively measure a monthly geomean, a parameter must be sampled several times in a month. Sulkin Decl. ¶ 72. Hawaii’s regulations require each pollutant to be monitored “at intervals sufficiently frequent to yield data which reasonably characterized the nature of the discharge of the monitored... pollutant.” HAR § 11-55-28(d). The regulations direct that “variable effluent flows and pollutant levels shall be monitored at more frequent intervals than relatively constant effluent flows and pollutant levels.” *Id.* Because the Wailua WWTP does not consistently discharge through Outfall 01, the Permit must include more frequent monitoring to ensure compliance with Permit limits and water quality criteria. Sulkin Decl. ¶ 72. To protect water quality, the Permit should require the Offshore Water Quality Monitoring to test for pollutants at least twice per month. Sulkin Decl. ¶ 72. This is particularly important when the Wailua WWTP did not complete any Offshore Water Quality Monitoring from April to June 2022, claiming that “strong tradewinds which directly impact the survey site” led to unsafe conditions for the entire quarter. *Id.* It appears that the Wailua WWTP conducted no Offshore Water Quality Monitoring between March 3, 2022 and September 28, 2022. *Id.*

V. The Hawaii Constitution Requires that the Permit protect water quality standards and conserve and protect ocean resources for future generations.

A. The Hawaii Constitution requires the Department of Health to set effluent limits and monitoring that conserve and protect the state’s water resources.

The Department of Health has an affirmative constitutional duty under Article XI, section 1 of the Hawaii Constitution to protect public trust resources in exercising its discretion over NPDES permits. *See Kelly v. 1250 Oceanside Partners*, 111 Hawaii 205, 230, 140 P.3d 985, 1010 (2006) (“Although in some respect, exercise of DOH’s authority is discretionary in nature, such discretionary authority is circumscribed by the public trust doctrine.”). The Department of Health also “has an obligation to protect the use of Hawaii’s water resources for the benefit of the people.” Article XI, Section 7 Hawaii State Constitution, *see also In re Waiāhole Ditch Combined Contested Case Hr’g (Waiāhole I)*, 94 Hawaii 97, 131 (2000).

Article XI, section 1 of the Hawaii Constitution requires the Department of Health “[f]or the benefit of present and future generations,” to “conserve and protect Hawaii’s natural beauty and all natural resources.” Article XI, section 1 further declares that “[a]ll public natural resources are held in trust by the State for the benefit of the people.” This mandate adopts “the public trust doctrine as a fundamental principle of constitutional law in Hawaii.” *Waiāhole I*, 94 Hawaii 97, 132 (2000).

The Hawaii Supreme Court has made clear that the public trust includes “the authority and duty ‘to maintain the purity and flow of our waters for future generations,’” which “requires the State and its political subdivisions to ‘protect’ and ‘promote’ the State’s water resources.” *Kelly v. 1250 Oceanside Partners*, 111 Hawaii 205, 221-23, 140 P.3d 985, 1102-03 (Haw. 2006). “[T]he public trust doctrine applies to all water resources without exception or distinction,” and

the Hawaii Supreme Court has applied it specifically to nearshore marine waters.” *Id.* at 221-23, 140 P.3d at 1101-03; *see, e.g., Umberger v. Dep’t of Land & Natural Res.*, 140 Hawaii 500, 520-21, 403 P.3d 277, 297-98 (2017).

“The State’s constitutional public trust obligations exist independent of any statutory mandate and must be fulfilled regardless of whether they coincide with any other legal duty.” *Ching v. Case*, 145 Hawaii 148, 178 (2019). The “basic premise” of the public trust is “that the state has certain powers and duties which it cannot legislatively abdicate.” *Waiāhole I*, 94 Hawaii at 130-31. Thus, resource protection statutes such as H.R.S. ch. 342D and its implementing rules “do[] not supplant the protections of the public trust doctrine” or “override the public trust doctrine or render it superfluous.” Rather, “the doctrine continues to inform the [statute]’s interpretation, define its permissible ‘outer limits,’ and justify its existence.” *Id.* at 133, 9 P.3d at 445. “The public trust doctrine at all times forms the outer boundaries of permissible government action with respect to public trust resources.” *Id.* at 132, 9 P.3d at 444 (citation omitted).

To fulfill their public trust duties, Hawaii government agencies including the Department of Health must “take the initiative in considering, protecting, and advancing public rights in the resource at every stage of the planning and decision-making process.” *Kelly*, 94 Hawaii at 231, 140 P.3d at 1011 (quoting *Waiāhole*, 94 Hawaii at 143, 9 P.3d at 446). More specifically, agencies must “consider the cumulative impact” of its actions on public trust resources and “implement reasonable measures to mitigate this impact, including the use of alternative[s].” *Waiāhole*, 94 Hawaii at 143, 9 P.3d at 446. Agencies must also reassess prior decisions and consider actions they can take to undo harm that has already been caused. *Id.* at 149-50, 9 P.3d at 461-62.

Therefore, the public trust places upon the Department of Health “a fiduciary duty analogous to the common law duty of a trustee.” *Ching*, 145 Hawaii at 170, 449 P.3d at 1168. “The most basic aspect of the State’s trust duties is the obligation to protect and maintain the trust property and regulate its use,” which necessarily includes an “obligation to reasonably monitor trust property to ensure it is not harmed.” *Id.* at 170, 177, 449 P.3d at 1168, 1175 (cleaned up). “As trustee, the State must take an active role in preserving trust property and may not passively allow it to fall into ruin.” *Id.* at 177, 449 P.3d at 1175.

B. The Draft Permit and Fact Sheet violate Constitutional protections of Hawaii’s water resources.

1. The Draft Permit’s Enterococci limits violate the public trust.

The Draft Permit and the Department of Health’s justification for it, as set out in the Fact Sheet, violate the Hawaiian Constitution’s protection of public trust resources in a number of ways. First, the Draft Permit’s Enterococci limits sacrifice the public trust ocean resources off of Lydgate Park, swapping the primary contact recreational uses for a “sacrifice zone” for a sewage treatment plant that regularly fails to disinfect its partially-treated sewage effluent. The County, which sought a continuation of the high Enterococci effluent limits, failed to meet its burden under the Hawaii Constitution of “justifying their proposed uses in light of protected public rights in the resource.” *In re Water Use Permit Applications*, 94 Hawaii 97, 160 (2000).

Nowhere in its NPDES permit application did the County reveal that it at times fails to disinfect its sewage effluent, nor has it explained why it fails to do so or what changes or upgrades could be made to the treatment works or its operation or maintenance to resolve the issue. The County failed to identify how much it would cost to upgrade its systems to meet the Enterococci recreational water quality criteria, or explain any other steps it has taken to reduce the Enterococci in its discharges. The County failed to explain how compliance with the Enterococci limits would cause it serious hardships that would not be outweighed by the benefits to the public of not swimming, surfing, windsurfing, or wading in partially treated sewage.

Similarly, the Department of Health violated its public trust duties by including a zone of initial dilution for Enterococci even though doing so removes a designated and actual use of the receiving water. The Enterococci limit further violates the Department of Health's public trust duties because it failed to undertake a "thorough review of known and available means of preventing, controlling, or abating" Enterococci discharge. The Department of Health also included a zone of initial dilution even though the County failed to meet its burden of showing serious financial hardship. The Department of Health also failed to investigate the harm to public health and safety resulting from the Wailua WWTP discharging undisinfecting, partially-treated sewage into the ocean at Lydgate Park.

2. The Draft Permit's treatment of nutrient pollution violates the public trust.

The Draft Permit's lack of nutrient limits violates the Department of Health's Constitutional duties to protect the public trust resources. The County, which sought a continuation of the prior permit conditions that did not restrict nutrient pollution in the Wailua WWTP's discharges, failed to meet its burden under the Hawaii Constitution of "justifying their proposed uses in light of protected public rights in the resource." *In re Water Use Permit Applications*, 94 Hawaii 97, 160 (2000). The County failed to identify how much it would cost to upgrade its systems to meet the nutrient water quality criteria, or explain any other steps it has taken to reduce the nutrient pollution in its discharges. The County failed to explain how compliance with the nutrient water quality criteria would cause it serious hardships that would not be outweighed by the benefits to the public of not having high nutrient discharges into the ocean.

Similarly, the Department of Health violated its public trust duties by including a zone of mixing for nutrients even though the County failed to meet its burden set out in Hawaii law in order for the discharges to qualify for a zone of mixing. The lack of nutrient limits further violates the Department of Health's public trust duties because the Department of Health failed to undertake a "thorough review of known and available means of preventing, controlling, or abating" nutrient discharges. The Department of Health also included a zone of mixing for nutrients even though the County failed to meet its burden of showing serious financial hardship. The Department of Health also failed to investigate any harm to public health and safety resulting from the Wailua WWTP discharging effluent containing high levels of nutrients.

VI. We Request an Extension of Time to Comment on the Permit.

On July 15, 2025, we submitted a request to Mr. Darryl Lum for an extension of time to provide comments and a request for documents necessary to fully participate in the public comment period. Exhibit K. We received no response from Mr. Lum regarding the July 15 request for documents or the request for extension. On July 24, one business day before the close of the public comment period, Surfrider employee Hanna Lilley received some of the requested documents. However, the comment deadline was not extended and there was not sufficient time to review the provided materials and incorporate the information into these comments. We renew our request for relevant documents and additional time to provide comments on the Draft Permit.

VII. We Request a Public Hearing on the Draft Permit.

Surfrider Foundation requests a public hearing on the Draft Permit. Community members are frustrated with the County and its management of the Wailua WWTP, which consistently causes strong unpleasant odors and has caused sewage spills in the past and want to be heard by the Clean Water Branch. We request that the hearing be held at a time and place that is convenient for the public. We request that the Department of Health record the meeting and waive the requirement that all oral comments also be submitted in writing. Such a requirement decreases accessibility of the proceedings to the public, particularly for those community members who may have difficulty with writing or merely those who provide more compelling and authentic testimony orally rather than in writing. Particularly given the strong oral tradition of storytelling in native Hawaiian culture, the Department of Health should ensure that community members can share their concerns about the Draft Permit solely by providing oral testimony. We request that a Department of Health employee who is a decision-maker with respect to this permit application be in attendance to hear and consider all oral comments. We also request an extension of the comment period through the end of the public hearing.

CONCLUSION

Given the extensive issues with the Draft Permit, Surfrider Foundation urges the Department of Health to go back to the drawing board and revise the Draft Permit so that it complies with the law before it is finalized. Surfrider Foundation looks forward to working collaboratively with the County and the Department of Health to ensure the revised Permit meets all legal requirements and protects public health and water quality.

Respectfully Submitted,



Jill Witkowski Heaps, Esq.
Senior Legal Director

Attachments: Exhibits A-K

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