

GUAM ENVIRONMENTAL PROTECTION AGENCY

AFIENSIAŃ PRUTEKSION LINĀLA GUĀŃAN

EDDIE BAZA CALVO
GOVERNOR OF GUAM

RAY TENORIO
LT. GOVERNOR OF GUAM

ERIC M. PALACIOS
ADMINISTRATOR, GUAM EPA, ENERGY OFFICE

P.O. Box 22439, BARRIGADA, GU 96921

P: (671) 475-1658/59

F: (671) 475-8007

EPA.GUAM.GOV

Ms. Nancy Woo
Director Water Division
USEPA, Region 9
75 Hawthorne Street, WRT-5
San Francisco, CA 94105

JUL 06 2015

ATTN: Mr. Jamie Maricola, NPDES Permits Office

RE: Section 401 Water Quality Certification 15-08, for National Pollution Discharge Elimination System (NPDES) Permit No. **GU0020273 (Renewal)**, for Guam Waterworks Authority, Umatac-Merizo Wastewater Treatment Plant, Route 2, Merizo, GU, 96915.

Dear Mr. Maricola,

The Guam Environmental Protection Agency (Guam EPA) has reviewed the above subject application for a Guam Waterworks Authority (GWA), NPDES permit for Umatac-Merizo Wastewater Treatment Plant, to discharge Secondary Treated Domestic Wastewater into Toguan River trough outfall 001, located at 13° 17' 8.5" N and 13° 17' 8.5" N, which flows into the Toguan Bay. GWA was previously discharging under NPDES permit GU0020273 issued on January 13, 2009 and effective March 1, 2009.

The facility was built in 1981 and is a Class II wastewater treatment plant as defined by the Guam EPA and was designed to serve approximate 4,000 residents. The facility has a Waste Stabilization Pond Treatment System (a mechanically aerated, facultative treatment lagoon) and Wetlands Treatment System ("WTS"). The WTS consists of six constructed wetland ponds where evapotranspiration and percolation treat effluent from the stabilization pond. The facility does not disinfect its effluent.

Design flow for the facility is 0.39 million gallons per day ("MGD"). Although the average daily flow rate in recent years has been approximately 0.35 MGD, peak flow has

been as high as 1.66 MGD. The facility discharges frequently during the year, heavy rain events during the year at a rate of about 0.4 MGD.

The wastewater treatment facility discharges to the Toguan River via a spillway downstream of the Wetland Treatment System and outfall 001. The effluent coningles with the Toguan River for less than half a mile before flowing into the Toguan Bay. The discharge is expected to have no effect on species beyond the outlet of the River into the Bay. The Mariana common moorhen is known to use wetland and river habitats in the Toguan River and Bay areas.

The Guam Water Quality Standards (GWQS), classify the Toguan River as "Category S-3 Low." Surface water in this category is primarily used for commercial, agricultural, and industrial activities. Because the facility's discharge is a very small proportion of the Toguan River's flow and the river's flow is further diluted once reaching nearby wetlands, the facility's contribution to the wetlands may be considered *de minimis*. Additionally, this permit is written to protect the beneficial uses of the river which include propagation and preservation of aquatic wildlife. This permit incorporates effluent limitations and narrative conditions to ensure that the discharge meets GWQS without any additional mixing zones.

The Toguan River is not assessed for water quality impairments, while Toguan Bay (beach) is listed as impaired for Enterococcus. No TMDL has been established for bacteria for Guam's southern watersheds.

The effluent discharged from this facility is characterized as secondary-treated sanitary wastewater. The permittee is considered a minor discharger that discharges less than 0.4 MGD into the Toguan River approximately 1,100 feet upstream of the Toguan Bay estuary. There are no known industrial discharges to the treatment plant.

Guam EPA endorses the attached USEPA Region IX NPDES Permit GU0020273, which establishes environmentally protective effluent limits and monitoring requirements on the discharger to ensure that all applicable GWQS are met for the Umatac-Merizo Wastewater Treatment Plant. USEPA has classified this discharge as a "minor discharger".

Section 401 Water Quality Monitoring:

Water Quality Monitoring is required in the NPDES Permit to ensure existing designated uses and the level of water quality necessary to protect the existing uses be

maintained. Water Quality Monitoring will follow parameters and frequency identified in the NPDES Permit. Additionally, any sustained or significant water quality discharge exceedance shall require increase frequency in monitoring and reporting to Guam EPA. These increases will be based on parameter, frequency and concentration of exceedance.

The GWQS establish criteria for S-3 waters for nitrate-nitrogen and orthophosphate. Nutrient are not acutely toxic to wildlife and therefore criteria can be met over chronic averaging periods. Therefore, limitations have been established consistent with the standards on an average monthly basis.

The GWQS 2015 amendment establishes revised criteria for all marine and surface waters for E.coli and enterococcus. The standards are based on USEPA 2014 Beach guidance. Additionally, downstream Toguan Bay is listed as impaired for enterococcus.

Water Quality Certification conditions may be added, amended, or changed and/or W Quality Certification suspended or revoked to ensure discharge is in compliance with Guam Water Quality Standards. Water Quality Certification conditions are as follows:

Section 401 Water Quality Certification Conditions:

1. Guam EPA will require GWA to provide updates and statuses regarding USEPA's Order for Preliminary Relief under an ongoing Stipulated Order (Civil Case No. 02-00035) with GWA for the submitted following timelines; Interim improvements (Estimated completion date by GWA: 4/20/16), WWTP upgrade complete (6/29/18), WWTP upgrade complete (6/29/18), Collection system improvements (12/31/18), Attain nutrient discharge requirements (12/31/18).
2. GWA Water Quality Monitoring shall adhered to the significant changes listed below from previous permit incorporated in NPDES Permit GU0020273 for Umatac-Merizo Waste Water Treatment Plant Outfall No. 1.
 - Limits established for flow, settleable solids, and enterococcus.
 - Mass limits removed for all pollutants except BOD and TSS.
 - Fecal coliform limit removed; new limits for ammonia, nitrate, and orthophosphate.
 - New mechanism for calculating compliance with ammonia limit (Ammonia Impact Ratio).

- Increased monitoring for oil & grease.
 - Reduced monitoring frequency for E. coli, enterococcus, ammonia, nitrate, orthophosphate, heavy metals, pesticides and toxicity.
 - Removal of monitoring requirement for hardness.
 - Revised receiving water monitoring requirements including mixing zone study.
 - Switch to electronic reporting.
3. Guam EPA is requiring the applicant to modify its receiving water monitoring, as follows:
- a. Add an additional monitoring station (TR3) downstream after the bypass discharge on the Toguan River. New monitoring station will provide samples of effluent if and when emergency bypass discharge occurs which makes up the majority of the flow of the river to Toguan Bay. The new monitoring station shall be established with the concurrence of the GEPA.
 - b. A description of the new monitoring station (TR3) and identified existing monitoring stations (TR1 & TR2) and GPS coordinates must be provided and identified by GWA in a document describing in detail the receiving water monitoring procedures and QA/QC protocols that are to be implemented. The document must be submitted to the GEPA Administrator no later than ninety (90) days after the effective date of the NPDES Permit #GU0020273.
4. Guam EPA concurs with the rationale for numeric effluent limits and monitoring typical pollutants evaluated by EPA. Which are expected to be present in the effluent and that EPA has selected the most stringent of applicable technology-based or water quality-based effluent limitations that GWA must follow.
5. GWA shall take immediate corrective actions or engineering measures to address significant non-compliance with water quality standards and/or environmental protection requirements. Notification must be made to Guam EPA within 24 hours.
6. Best Management Practices (BMPs) or other Operational Procedure Documents/Standard Operational Procedures (SOPs) must be submitted and made readily available to GEPA inspectors for facility inspections to ensure

Guam Water Quality Standards are not adversely impacted by facility activities and outfall discharge.

7. Guam EPA Certifies GWA's Waste Water Treatment Plant (WWTP) Operators of the Umatac-Merizo WWTP.
8. The sludge generated by the waste water treatment facility must be analyzed for parameters of concerns, prior to disposal for compliance with regulations.
9. The dredged sludge disposal should be described in the BMP's and SOP's for the facility and disposed appropriately based on the initial sludge testing analysis. If testing results are below action levels/standards, no further sludge analysis will be required.

As the certifying entity on Guam for the Federal Clean Water Act Section 401 Water Quality Certification (WQC) and with the authority as outlined in Title 22, Division 2, Chapter 5 of the Guam Administrative Rules and Regulations, Guam EPA hereby issues a "CONDITIONAL" CWA Section 401 WQC to the Guam Waterworks Authority for the NPDES Permit #GU0020273.

Sections 208(e), 301, 302, 303, 306, and 307 of the CWA and with the Guam Water Quality Standards, as amended in 2001 (Guam EPA, 2001)

This 401 WQC shall be suspended and/or revoked if above permit conditions are not adhered to or when significant and sustained water quality degradation occurs as a result of the permitted activity as determined by this Agency.

Sincerely,


ERIC M. PALACIOS
Administrator

Attachment: Section 401 Water Quality Certificate

CC: ACOE, Guam Office

USEPA, Region 9, Mr. Jamie Maricola

Guam Waterworks Authority

Bureau of Statistics & Plans, GCMP

Dept. of Agriculture, DAWR



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Section 401 Water Quality Certification, 401 WQC 15-08:

Section 401 Water Quality Certification for Discharge: **For renewal of NPDES GU0020273 for Guam Waterworks Authority, Umatac-Merizo Waste Water Treatment Plant, Route 2, Merizo, GU, 96915.** The Guam Environmental Protection Agency hereby issues a Section 401 Water Quality Certification, in accordance with the Clean Water Act, Public Law 95-127 and the Guam Water Quality Standards 2001 Revisions (GWQS), pursuant to the Guam Water Pollution Control Act, Chapter 47, Title 10 GCA. These discharge limits are authorized under Guam's anti-degradation policy GWQS 5101.B. This Section 401 Water Quality Certification permit is only valid if all permit conditions are met. The issuance of Water Quality Certification does not exempt or waive any other local and federal requirements or allow the applicant to injure or damage surrounding properties. No person shall willfully deface, alter, forge, counterfeit, or falsify this certification.


ERIC M. PALACIOS
Administrator

Date: JUL 06 2015