



GUAM WATERWORKS AUTHORITY

**Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, Guam 96913
Phone: (671) 300-6885 Fax: (671) 648-3290**

May 12, 2015

William M. Castro
Acting Director
Bureau of Statistics and Plans
Guam Costal Management Program
P. O. Box 2950
Hagåtña, GU 96932

VIA HAND DELIVERY AND ELECTRONIC MAIL

Subject: Federal Consistency Certification Application:
Baza Gardens Sewage Treatment Plant NPDES Permit Renewal for
discharge to Togcha River, Guam. NPDES PERMIT NO. GU0020095.

Bueñas yan saluda Mr. Castro,

Under Section 307 of the Coastal Management Act (CZMA), non-federal activities that are conducted under Federal licenses or permits are subject to review by the Government of Guam to insure consistency with CZMA. A proposal to renew a National Pollution Discharge Elimination System ("NPDES") permit to Guam Waterworks Authority (GWA) for the Baza Gardens Sewage Treatment Plant has been forwarded to Guam EPA for review and approval.

By this letter GWA requests certification that the proposed activity complies with the Guam Costal Management Program (GCMP) and will be conducted in a manner consistent with such program. A project description summary is enclosed with this letter. Also a set of findings documenting that the proposed activity is consistent with the GCMP is attached.

We understand that your office may circulate this consistency certification among local government agencies that may be affected by the proposed activity. A timely response to this request for certification of compliance would be appreciated.

This request is submitted by GWA (the Applicant) in its own behalf. Please contact this writer by phone at (671)300-6885, or by e-mail at paulkemp@guamwaterworks.org if you have any questions.

Senseremente,



Paul J. Kemp

Assistant General Manager for Compliance and Safety

Date May 12, 2015

cc: Michael J. Lee
US EPA
Pacific Islands Office (CMD-6)
75 Hawthorne St.
San Francisco, CA 94610

Susanne Perkins
EPA Clean Water Enforcement Section
U. S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Encl.: [1] Assessment Forms
[2] Project Description
[3] Summary of findings.
[4] Draft of NPDES permit.
[5] Draft of NPDES fact sheet.

GUAM COASTAL MANAGEMENT PROGRAM ASSESSMENT FORM

Date of Application: May 12, 2015

Name of Applicant: Guam Waterworks Authority

Address: Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, GU 96913

Telephone No.: (671) 300-6885

Title of Proposed Project:
NPDES Permit Renewal : Baza Gardens Sewage Treatment Plant

Other applicable area(s) affected, if appropriate:
N/A

Est. Start Date: Ongoing Est. Duration: Ongoing

AGENCY REPRESENTATIVE INFORMATION

Name & Title: James Paul Marincola, Permit Writer

Agency/Organization: United States Environmental Protection Agency

Address: USEPA, Region IX
Permits Branch (E-4)
75 Hawthorne St.
San Francisco, CA 94105

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CATEGORY OF APPLICATION (check one only)

- I Federal Agency Activity
- II Permit or License
- III Grants & Assistance

TYPE OF STATEMENT (check one only)

- Consistency
- General Consistency (Category I only)
- Negative Determination (Category I only)
- Non-Consistency (Category I only)

FEDERAL AUTHORITY FOR ACTIVITY

40 CFR 122.21

OTHER TERRITORIAL APPROVALS REQUIRED

Agency	Type of Approval	Application Date	Status
Guam EPA	401 Certification	04/10/15	Expected June 2015

COMPLETE FOLLOWING PAGES FOR BUREAU OF STATICS AND PLANS ONLY:

DATE APPLICATION RECEIVED:

OCRM NOTIFIED: _____ LC. AGENCY NOTIFIED: _____

APPLICANT NOTIFIED: _____ PUBLIC NOTICE

GIVEN: _____

OTHER AGENCY REVIEW REQUESTED:

DETERMINATION: () CONSISTENT () NON-CONSISTENT () FURTHER INFORMATION REQUESTED

OCRM NOTIFIED: _____ LIC. AGENCY NOTIFIED: _____

APPLICANT NOTIFIED: _____

ACTION LOG: 1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

DATE REVIEW COMPLETED:

Project Description

Guam Waterworks Authority (“GWA” or the “permittee”) has applied for the renewal of its National Pollutant Discharge Elimination System (“NPDES”) permit to authorize the discharge of treated effluent from the Baza Gardens Sewage Treatment Plant (the “facility” or “Baza Gardens STP”) to the Togcha River, Guam. A completed application was submitted on April 10, 2014. The Environmental Protection Agency (“EPA”) Region IX is reissuing this facility’s permit pursuant to the Clean Water Act (“CWA”) section 402. CWA section 402, and EPA’s implementing regulations, contain provisions that govern EPA’s authorization to require NPDES permit conditions. (40 CFR 122).

The permittee currently is discharging under NPDES permit GU0020095, which was issued on November 28, 2008. Pursuant to 40 CFR 122.21, the terms of the existing permit are administratively extended until the issuance of a new permit.

This permittee is classified as a minor discharger since its design flow is less than one million gallons per day (“mgd”).

The permittee operates a publicly owned treatment works (“POTW”) or sewage treatment plant (“STP”) serving the village of Talofofu and the Baza Gardens community. These communities have an approximate population of 3,070. The facility has a design flow of 0.60 mgd. The Baza Gardens STP was put into service in 1975.

The facility provides secondary treatment of wastewater using an activated sludge package system. The STP uses a single process train, extended aeration activated sludge process, to meet its design secondary treatment objective. Chlorination currently is not used at the facility. The treated effluent is discharged to the Togcha River through Outfall No. 001.

Biosolids are periodically pumped into a tanker truck and hauled to the Hagåtña (Agaña) STP for dewatering. Final dewatered cake disposal is at the Layon Landfill.

The facility discharges to the Togcha River through the Togcha River Exfiltration Trench at latitude 12° 22’ 16” N and longitude 114° 44’ 49” E. The factsheet explained that the trench consists of a limestone bed rock pit, layered with various sizes of limestone rock and clean crushed coral, and is approximately 60 feet from the banks of the Togcha River. The trench reduces the velocity of the effluent and diffuses the discharge into the receiving water (i.e. rock infiltrator). The Togcha River follows a two-mile course before flowing into the Pacific Ocean.

The Guam Environmental Protection Agency (“GEPA”) adopted water quality standards (“WQS”) for different surface waterbodies, depending on the level of protection required. The WQS, revised in 2001, provide water quality criteria by surface waterbody classification. The Togcha River is located within the area classified as Category S-3, low quality surface water(s). Category S-3 waters primarily are used for commercial, agricultural, and industrial activities. Aesthetic enjoyment and limited body contact recreation are acceptable in this zone, as well as maintenance of aquatic life. (GEPA 2001).

The facility provides secondary treatment of wastewater using an activated sludge package treatment system. The wastewater influent enters the headworks and passes through an aerated grit chamber followed by a comminutor. If the flow exceeds the comminutor capacity, a channel equipped with a manually-cleaned bar rack allows de-gritted wastewater to bypass the comminutor. Once the wastewater enters the aeration section, it is aerated and mixed with return activated sludge. The mixed liquor from the aeration tank flows into the secondary clarifier and then into the chlorine contact tank. However, chlorine is currently not added at the STP. The activated sludge is stabilized in the aerobic digester before

being pumped into a tanker truck and hauled to the Hagåtña (Agaña) STP. Final dewatered cake disposal is at the Layon Landfill.

Summary of Findings

This facility is subject to Guam review for consistency with the Coastal Zone Management Act. The applicant has reviewed Guam Coastal Management policies; discussion for each policy may be found below:

DEVELOPMENT POLICIES (DP):

DP1. Shore Area Development

Intent: To insure environmental and aesthetic compatibility of shore area land uses.

Policy: Only those uses shall be located within the Seashore Reserve which:

- enhance, are compatible with or do not generally detract from the surrounding coastal area's aesthetic and environmental quality and beach accessibility; or
- can demonstrate dependence on such a location and the lack of feasible alternative sites.

Discussion:

The facility is not located within the Seashore Reserve.

DP2. Urban Development

Intent: To cluster high impact uses such that coherent community design, function, infrastructure support and environmental compatibility are assured.

Policy: Commercial, multi-family, industrial and resort-hotel zone uses and uses requiring high levels of support facilities shall be concentrated within urban districts as outlined on the Land Use Districting Map.

Discussion:

The facility is concentrated within the urban district and the infrastructure support network for the facility has already been developed and is in place.

DP3. Rural Development

Intent: To provide a development pattern compatible with environmental and infrastructure support suitability and which can permit traditional lifestyle patterns to continue to the extent practicable.

Policy: Rural districts shall be designated in which only low density residential and agricultural uses will be acceptable. Minimum lot size for these uses should be one-half acre until adequate infrastructure including functional sewerage is provided.

Discussion:

The facility does not interfere with rural districts where low density residential and agricultural uses are prevalent.

DP4. Major Facility Siting

Intent: To include the national interest in analyzing the siting proposals for major utilities, fuel, and transport facilities.

Policy: In evaluating the consistency of proposed major facilities with the goals, policies, and standards of the Comprehensive Development and Coastal Management Plans, the Territory shall recognize the national interest in the siting of such facilities including those associated with electric power production and transmission, petroleum refining and transmission, port and air installations, solid waste disposal, sewage treatment and major reservoir sites.

Discussion:

The facility has already been sited. The location of the sewage treatment plant is located at a point at the terminus of the sewer lines, with access to infrastructure, power and appropriate outfall discharge location.

DP5. Hazardous Areas

Intent: Development in hazardous areas will be governed by the degree of hazard and the land use regulations.

Policy: Identified hazardous lands, including flood plains, erosion-prone areas, air installations, crash and sound zones and major fault lines shall be developed only to the extent that such development does not pose unreasonable risks to the health, safety or welfare of the people of Guam, and complies with the land use regulations.

Discussion:

The facility is not located in a hazardous area.

DP6. Housing

Intent: To promote efficient community design placed where the resources can support it.

Policy: The government shall encourage efficient design of residential areas, restrict such development in areas highly susceptible to natural and manmade hazards, and recognize the limitations of the island's resources to support historical patterns of residential development.

Discussion:

The facility does not include or directly affect local housing.

DP7. Transportation

Intent: To provide transportation system while protecting potentially impacted resources.

Policy: The Territory shall develop an efficient and safe transportation system, while limiting adverse environmental impacts on primary aquifers, beaches, estuaries and other coastal resources.

Discussion:

The facility does not provide transportation for the Territory.

DP8. Erosion and Siltation

Intent: To control development where erosion and siltation damage is likely to occur.

Policy: Development shall be limited in areas of 15% or greater slope by requiring strict compliance with erosion, sedimentation, and land use districting guidelines, as well as other related land use standards for such areas.

Discussion:

The facility is not located on an area with a slope of 15% or greater.

RESOURCES POLICIES (RP):

RP1. Air Quality

Intent: To control activities to insure good air quality.

Policy: All activities and uses shall comply with all local air pollution regulations and all appropriate Federal air quality standards in order to ensure the maintenance of Guam's relatively high air quality.

Discussion:

No significant air pollution will be released by this facility.

RP2. Water Quality

Intent: To control activities that may degrade Guam's drinking, recreational, and ecologically sensitive waters.

Policy: Safe drinking water shall be assured and aquatic recreation sites shall be protected through the regulation of uses and discharges that pose a pollution threat to Guam's waters, particularly in estuaries, reef, and aquifer areas.

Discussion:

The facility discharges treated wastewater into the Togcha River, Guam. This discharge is permitted under the NPDES program by U.S. EPA Region 9 and is required to meet permit

conditions such that the effluent from the facility will meet applicable Guam Water Quality Standards.

For further assessment of effluent impacts and determination of permit conditions and limits by EPA, please reference proposed NPDES permit and fact sheets (attached).

RP3. Fragile Areas

Intent: To protect significant cultural areas, and natural marine and terrestrial wildlife and plant habitats.

Policy: Development in the following types of fragile areas shall be regulated to protect their unique character:

- historical and archeological sites
- wildlife habitats
- pristine marine and terrestrial communities
- limestone forests
- mangrove stands and other wetlands

Discussion:

The facility does not interfere with any of the above areas. As discussed above, the facility provides treatment to control water pollution.

***Historical and archeological sites:* This is an existing facility and does not have the potential to affect any historic properties or cultural properties.**

***Wildlife Habitats:* The facility is not located in an area designated as critical habitat for the Mariana Fruit Bat. (US FWS 2009; US FWS 2012) or U.S. FWS lists of threatened or endangered bird species. The facility's discharge will not affect the bats' food, habitat, or the bat itself. Many of the seven bird species are known to occur in the northern part of the island, miles away from the facilities discharge. Baza Gardens is on the southern part of Guam and is not located within the critical habitat area for these species or within a limestone forest.**

The Mariana Common Moorhen are found primarily at natural and manmade wetlands and feed on a variety of plant and animal matter located in and around the wetlands. The nearest wetland that could potentially support the species is Talofoflo floodplain. The facility and its discharge will not affect the existence of any natural or manmade wetlands.

RP4. Living Marine Resources

Intent: To protect marine resources in Guam's waters.

Policy: All living resources within the territorial waters of Guam, particularly corals and fish, shall be protected from over harvesting and, in the case of marine mammals, from any taking whatsoever.

Discussion:

The facility does not harvest or take any aquatic species.

The facility's small discharge, less than 0.6 mgd average monthly, will not affect any aquatic species. Because the discharge is to an inland water, approximately 2 miles upstream of the Pacific

Ocean, the discharge will not affect the coral species and the Green and Hawksbill Sea turtle marine environment.

The permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. The permit does not directly discharge to areas of essential fish habitat.

RP5. Visual Quality

Intent: To protect the quality of Guam's natural scenic beauty.

Policy: Preservation and enhancement of, and respect for the island's scenic resources shall be encouraged through increased enforcement of and compliance with sign, litter, zoning, subdivision, building and related land-use laws. Visually objectionable uses shall be located to the maximum extent practicable so as not to degrade significant views from scenic overlooks, highways and trails.

Discussion:

The facility does not visually interfere with scenic overlooks, highways or trails.

RP6. Recreation Areas

Intent: To encourage environmentally compatible recreational development.

Policy: The Government of Guam shall encourage development of varied types of recreational facilities located and maintained so as to be compatible with the surrounding environment and land uses, adequately serve community centers and urban areas and protect beaches and such passive recreational areas as wildlife and marine conservation areas, scenic overlooks, parks and historical sites.

Discussion:

The facility is not located on and does not interfere with Territorial recreational facilities.

RP7. Public Access

Intent: To ensure the right of public access.

Policy: The public's right of unrestricted access shall be ensured to all non-federally owned beach areas and all Territorial recreation areas, parks, scenic overlooks, designated conservation areas and their public lands; and agreements shall be encouraged with the owners of private and federal property for the provision of releasable access to and use of resources of public nature located on such land.

Discussion:

The facility is not located on a beach area or Territorial recreational area, park, scenic overlook, designated conservation area or otherwise public land. The facility does not hinder access to

recreational areas, parks or public lands. Access to the facility itself is restricted to qualified personnel to ensure public safety.

RP8. Agricultural Lands

Intent: To stop urban types of development on agricultural land.

Policy: Critical agricultural land shall be preserved and maintained for agricultural use.

Discussion:

The facility is not located on and does not interfere with agricultural land.

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105**

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

NPDES PERMIT NO. GU0020095

In compliance with the provisions of the Clean Water Act (“CWA”) (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

Discharger Name	Guam Waterworks Authority
Discharger Address	P.O. Box 3010 Hagåtña, Guam 96910
Facility Name	Baza Gardens Sewage Treatment Plant
Facility Location Address	Baza Gardens Street Talofofo, Guam 96915
Facility Rating	Minor

Outfall Number	General Type of Waste Discharged	Outfall Latitude	Outfall Longitude	Receiving Water
001	Secondary Treated Domestic Wastewater	12° 22' 16" N	144° 44' 49" E	Togcha River

This permit was issued on:	
This permit shall become effective on:	
This permit shall expire at midnight on:	

In accordance with 40 CFR 122.21(d), the discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.

Signed this _____ day of _____, 2014, for the Regional Administrator.

Jane Diamond, Director
Water Division

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Part I. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

A. Effluent Limits and Monitoring Requirements

1. Effluent Limits – Outfall Number 001
The discharger is authorized to discharge domestic wastewater in compliance with the effluent limits and monitoring requirements specified in this permit, which are summarized in Table 1. Compliance with these requirements is monitored at the sampling point as specified in Part C of this permit.
2. The discharge of pollutants to waters of the United States at any point in the Togcha River other than the outfall (001) is prohibited.
3. The discharge of toxic substances in toxic amounts, including, but not limited to, pesticides, herbicides, heavy metals, and organic chemicals, is prohibited.
4. The discharge shall not cause the following conditions in the receiving water:
 - a. Visible floating materials, grease, oil, scum, foam and other floating material which degrades water quality or use;
 - b. Visible turbidity, deposits, or otherwise adversely affected aquatic life;
 - c. Objectionable color, odor, or taste;
 - d. Substances, conditions, or combinations that injure or are toxic or harmful to humans, animals, plants or aquatic life;
 - e. Substances, conditions or combinations that induce the growth of undesirable aquatic life;
 - f. Temperature to deviate more than 1.0 degree Centigrade from ambient conditions;
 - g. Turbidity to exceed 1.0 NTU over ambient conditions; and
 - h. Concentration of dissolved oxygen to be less than 75% of saturation.
5. The discharge of any radioactive wastes and contaminated radioactive materials is strictly prohibited.

B. Table 1. Numeric Effluent Limits and Monitoring Requirements – Outfall Number 001

Parameter	Maximum Allowable Discharge Limits				Monitoring Requirements	
	Concentration and Loading					
	Average Monthly	Average Weekly	Max. Daily	Units	Frequency	Sample Type
Flow rate	0.60	—	—	MGD	Continuous	Metered
Temperature	—	—	(1)	°C	Weekly	Discrete
Chlorine, total residual (TRC)	9 ⁽²⁾	—	19 ⁽²⁾	µg/L	Weekly	Discrete
pH (hydrogen ion)	Between 6.5 – 8.5 at all times			Std. Units	Weekly	Discrete
Biochemical oxygen demand (5-day)	30.0 150	45.0 225	— —	mg/L lbs/day	Weekly	24-hr Composite ⁽⁴⁾
	The average monthly percent removal shall not be less than 85 percent. ⁽³⁾			%		
Total suspended solids	30.0 150	45.0 225	— —	mg/L lbs/day	Weekly	24-hr Composite ⁽⁴⁾
	The average monthly percent removal shall not be less than 85 percent. ⁽³⁾			%		
<i>Enterococcus</i>	33 ⁽⁵⁾	—	108	CFU/ 100 MRL	Monthly	Discrete
Dissolved oxygen	—	—	(1)	mg/L	Monthly	Discrete
Nitrate-Nitrogen (NO ₃ -N)	0.41	—	0.82	mg/L	Quarterly	24-hr Composite ⁽⁴⁾
Ammonia-N	(1)	—	(1)	mg/L	Quarterly	24-hr Composite
Ammonia Impact Ratio	1.0 ⁽⁶⁾			Ratio	Quarterly	24-hr Composite
Orthophosphate (PO ₄ -P)	0.08	—	0.16	mg/L	Quarterly	24-hr Composite
Oil and grease, total recoverable	10.0	—	15.0	mg/L	Annually	Discrete
Chronic Toxicity	Pass ⁽⁷⁾			Pass/Fail	Once per permit term ⁰	24-hr Composite ⁽⁴⁾ ; see test procedure
Priority Pollutant Scan	(1)			µg/L	Once per permit term ⁽⁸⁾	24-hr Composite ⁽⁴⁾ ; see test procedure

Note: ‘MGD’ indicates units of Million Gallons per Day, ‘CFU’ is Colony Forming Units, and ‘NTU’ is Nephelometric Turbidity Units.

(1) No effluent limit is set at this time, but monitoring and reporting is required.

(2) Total residual chlorine effluent limitation and monitoring requirement is effective upon implementation of a disinfection system using chlorination; the permittee is required to notify EPA and Guam EPA 30 days prior to operation of a disinfection system.

(3) Both the influent and the effluent shall be monitored. The arithmetic mean of the biochemical oxygen demand (5-day) by concentration, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed

15 percent of the arithmetic mean of the values, by concentration, for influent samples collected at approximately the same times during the same period.

(4) Composites shall be taken over the course of a single discharge. If the discharge is less than 24 hours, composite samples shall be taken at regular intervals for the duration of the discharge.

(5) Geometric mean of five (5) sequential samples collected over a thirty (30) day period.

(6) When monitoring for total ammonia (as nitrogen), pH monitoring must be concurrent. The Ammonia Impact Ratio (AIR) is calculated as the ratio of the ammonia value in the effluent and the applicable ammonia standard from the chronic equation in Guam's Water Quality Standards. See Attachment E for a sample log to help calculate and record the AIR values. The AIR is the ammonia effluent limit and must be reported in the DMRs in addition to the ammonia-N and pH effluent values.

(7) See Part III.C, Special Conditions – Chronic WET Requirements, of this permit for details of the chronic WET test requirement. All chronic WET tests must be "Pass," and no test may be "Fail." "Pass" constitutes a rejection of the null hypothesis. Testing shall be conducted concurrent with testing for all other parameters.

(8) The permittee shall monitor for the full list of priority pollutants. Attachment F, List of Priority Pollutants, includes the list of the 126 priority pollutants pursuant to Appendix A of 40 CFR 423. Testing shall be conducted concurrent with testing for all other parameters.

C. Sampling

1. Samples and measurements shall be representative of the volume and nature of the monitored discharge.
2. Samples shall be taken at the following locations:
 - a. Influent samples shall be taken after the last addition to the collection system and prior to inplant return flow and the first treatment process.
 - b. Effluent samples shall be taken after inplant return flows and the last treatment process and prior to mixing with the receiving water.
3. If the discharge is intermittent rather than continuous, then on the first day of each intermittent discharge, the permittee shall monitor and record data for all the parameters listed in the monitoring requirements, after which the frequencies of analysis listed in the monitoring requirements shall apply for the duration of each such intermittent discharge. The permittee is not required to take effluent samples when there is no discharge.

D. General Monitoring and Reporting

1. All monitoring shall be conducted in accordance with 40 CFR 136 test methods, unless otherwise specified in this permit. For influent and effluent analyses required in this permit, the permittee shall utilize 40 CFR 136 test methods with method detection limits ("MDLs") and minimum reporting limit ("MRLs") that are lower than the effluent limits in this permit and the applicable water quality standards in the Guam Environmental Protection Agency Water Quality Standards. If all MDLs or MRLs are higher than these effluent limits or criteria concentrations, then the

permittee shall utilize the test method with the lowest MDL or MRL. In this context, the permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the MRL. Influent and effluent analyses for metals shall measure “total recoverable metal”, except as provided under 40 CFR 122.45(c).

2. As an attachment to the first discharge monitoring report (“DMR”), the permittee shall submit, for all parameters with monitoring requirements specified in this permit:
 - a. The test method number or title and published MDL or MRL,
 - b. The preparation procedure used by the laboratory,
 - c. The laboratory’s MDL for the test method computed in accordance with Appendix B of 40 CFR 136,
 - d. The standard deviation (S) from the laboratory’s MDL study,
 - e. The number of replicate analyses (n) used to compute the laboratory’s MDL, and
 - f. The laboratory’s lowest calibration standard.

As part of each DMR submittal, the permittee shall certify that there are no changes to the laboratory’s test methods, MDLs, MRLs, or calibration standards. If there are any changes to the laboratory’s test methods, MDLs, MRLs, or calibration standards, these changes shall be summarized in an attachment to the subsequent DMR submittal.

3. The permittee shall develop a Quality Assurance (“QA”) Manual for the field collection and laboratory analysis of samples. The purpose of the QA Manual is to assist in planning for the collection and analysis of samples and explaining data anomalies if they occur. At a minimum, the QA Manual shall include the following:
 - a. Identification of project management and a description of the roles and responsibilities of the participants; purpose of sample collection; matrix to be sampled; the analytes or compounds being measured; applicable technical, regulatory, or program-specific action criteria; personnel qualification requirements for collecting samples;
 - b. Description of sample collection procedures; equipment used; the type and number of samples to be collected including QA/Quality Control (“QC”) samples; preservatives and holding times for the samples (see 40 CFR 136.3); and chain of custody procedures;
 - c. Identification of the laboratory used to analyze the samples; provisions for any proficiency demonstration that will be required by the laboratory before or after contract award such as passing a performance evaluation sample; analytical method to be used; MDL and MRL to be reported; required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike

recoveries, etc.) and acceptance criteria; and corrective actions to be taken in response to problems identified during QC checks; and

- d. Discussion of how the permittee will perform data review, report results, and resolve data quality issues and identify limits on the use of data.
4. Throughout all field collection and laboratory analyses of samples, the permittee shall use the QA/QC procedures documented in their QA Manual. If samples are tested by a contract laboratory, the permittee shall ensure that the laboratory has a QA Manual on file. A copy of the permittee's QA Manual shall be retained on the permittee's premises and available for review by regulatory authorities upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.
5. Samples collected during each month of the reporting period must be reported on DMR forms, as follows:
 - a. For a *maximum daily* permit limit or monitoring requirement when one or more samples are collected during the month, report either:

The *maximum value*, if the maximum value of all analytical results is greater than or equal to the MRL; or
NODI (Q), if the maximum value of all analytical results is greater than or equal to the laboratory's MDL, but less than the MRL; or
NODI (B), if the maximum value of all analytical results is less than the laboratory's MDL.
 - b. For an *average weekly* or *average monthly* permit limit or monitoring requirement when only one sample is collected during the week or month, report either:

The *maximum value*, if the maximum value of all analytical results is greater than or equal to the MRL; or
NODI (Q), if the maximum value of all analytical results is greater than or equal to the laboratory's MDL, but less than the MRL; or
NODI (B), if the maximum value of all analytical results is less than the laboratory's MDL.
 - c. For an *average weekly* or *average monthly* permit limit or monitoring requirement when more than one sample is collected during the week or month, report:

The *average value* of all analytical results where 0 (zero) is substituted for *NODI (B)*, and the laboratory's MDL is substituted for *NODI (Q)*.
6. In addition to information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: the laboratory which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR 136 requirements were met.

The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, and sample condition upon receipt, holding time, and preservation.

7. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with effluent limitations and permit requirements. Beginning the effective date of the permit, the permittee shall submit discharge monitoring reports (DMRs) (EPA Form 3320-1) to EPA no later than the 28th day of the month following the completed quarterly reporting period. For example, the three DMR forms for January, February, and March are due on April 28th. Monitoring and reporting schedules are as follows:

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	DMR Due Date
Continuous	Permit effective date	Continuous	28 th day of the month following calendar quarter
Once/Day ⁽¹⁾	Permit effective date	Midnight through 11:59 p.m.	28 th day of the month following calendar quarter
Once/Week	Permit effective date	Sunday through Saturday	28 th day of the month following calendar quarter
Once/Month	Permit effective date	First day of the calendar month through last day of the calendar month	28 th day of the month following calendar quarter
Once/Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	28 th day of the month following calendar quarter
Once/Year	January 1 following permit effective date	January 1 through December 31	January 28, each year

(1) Once per day as it relates to composite or discrete samples shall be taken over the course of a single discharge. If the discharge is less than 24 hours, composite samples shall be taken at regular intervals for the duration of the discharge.

8. For a period of six months from the effective date of the permit, the permittee may submit the DMRs to EPA in hard copy form or in DMRs electronically submitted

using NetDMR. A DMR form must be submitted for the reporting period even if there was not any discharge. If there is no discharge from the facility during the reporting period, the permittee shall submit a DMR indicating no discharge as required.

Duplicate signed copies of hard copy forms, and all other reports required herein, must be submitted to EPA and Guam EPA at the following addresses:

NPDES Data Team (ENF-4-1)
EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

Administrator
Guam EPA
P.O. Box 22439 GMF
Barrigada, GU 96921

Beginning no later than six months after the effective date of the permit, the permittee shall begin reporting quarterly using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs. NetDMR is a web-based tool that allows permittees to electronically submit DMRs and other required reports via a secure internet connection. NetDMR is accessed from: <http://www.epa.gov/netdmr>. The permittee shall continue to use the NetDMR tool for reporting all discharge monitoring data. By using NetDMR, the permittee will no longer be required to submit hard copies of DMRs to EPA under 40 CFR 122.41 and 403.12.

After the permittee begins submitting DMR reports to EPA electronically using NetDMR, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies, unless otherwise specified in this permit. A report submitted electronically as a NetDMR attachment shall be submitted to EPA by the 28th day of the month following the calendar quarter it was due..

Part II. STANDARD CONDITIONS

The permittee shall comply with all EPA Region 9 Standard Conditions included in an attachment to this permit (see Attachment A).

Part III. SPECIAL CONDITIONS

A. Permit Reopener(s)

1. In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the

discharge to cause or contribute to exceedances of water quality standards. EPA may also make permit modification in response to new information presented by the permittee, if appropriate.

2. In accordance with 40 CFR 122.44(c), EPA may promptly modify or revoke and reissue any permit issued to a treatment works treating domestic sewage (including “sludge only facilities”) to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA, if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

B. Twenty-Four Hour Reporting of Noncompliance

1. The permittee shall report any noncompliance which may endanger human health or the environment. The permittee is required to provide an oral report by directly speaking with the EPA and the Guam EPA within 24 hours from the time the permittee becomes aware of non-compliance. If the permittee is unsuccessful in reaching a staff person, the permittee shall provide notification by 9 a.m. on the first business day following the noncompliance. The permittee shall notify EPA and the Guam EPA at the following telephone numbers:

U.S. Environmental Protection Agency
Water Section I
Enforcement Division
(415) 972-3577

Guam Environmental Protection Agency
Administrator
(671) 475-1658

The permittee shall follow up with a written submission within five days of the time the permittee becomes aware of non-compliance. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The following shall be included as information which must be reported within 24 hours under this paragraph.

- a. Any unanticipated bypass which exceeds any effluent limit in the permit (see 40 CFR 122.44(g)).
 - b. Any upset which exceeds any effluent limit in the permit.
2. EPA may waive the written report on a case-by-case basis for reports required under paragraph B.1, if the oral report has been received within 24 hours.

C. Chronic Whole Effluent Toxicity (WET) Requirements

1. Monitoring Frequency

The permittee shall conduct a chronic toxicity test on a 24-hour composite effluent sample once during the permit cycle. The permittee shall split a 24-hour composite effluent sample and concurrently conduct three toxicity tests using a fish, an invertebrate, and an alga species.

If the permittee needs to conduct subsequent toxicity testing, the permittee may conduct toxicity testing using the single, most sensitive species. The most sensitive species is the fish, invertebrate, or alga species which demonstrates the largest percent effect level at the Instream Waste Concentration (IWC), where:

$$\text{IWC percent effect level} = [(\text{Control mean response} - \text{IWC mean response}) \div \text{Control mean response}] \times 100.$$

Chronic toxicity test samples shall be collected downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained (i.e. Outfall 001). The sample shall consist of 100% effluent. When the WET sample is collected, the permittee must ensure sufficient sample volume to allow for the other pollutants to be measured on a split of the sample. See table 1.

2. Freshwater Species and Test Methods

Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the fourth edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002; Table IA, 40 CFR Part 136).

The permittee shall conduct static renewal toxicity tests with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0); the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.01); and the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

3. Chronic WET Permit Limit

There is a chronic toxicity effluent limit for this discharge because there is reasonable potential for the discharge to exceed the water quality standard for chronic toxicity. For this discharge, the determination of “Pass” or “Fail” from a single-effluent concentration chronic toxicity test at the IWC of 100 percent effluent is determined using the Test of Significant Toxicity (TST) approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). For any one chronic toxicity test, the chronic WET permit limit that must be met is rejection of the null hypothesis (H_0):

$$\text{IWC (100 percent effluent) mean response} \leq 0.75 \times \text{Control mean response.}$$

A test result that rejects this null hypothesis is reported as “Pass” on the DMR form. A test result that does not reject this null hypothesis is reported as “Fail” on the DMR form. To calculate either “Pass” or “Fail”, the permittee shall follow the instructions in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, Appendix A. If a test result is reported as “Fail”, then the permittee shall follow Section 6 (Accelerated Toxicity Testing and TRE/TIE Process) of this permit.

4. Quality Assurance

- a. Quality assurance measures, instructions, and other recommendations and requirements are found in the chronic test methods manual previously referenced. Additional requirements are specified below.
- b. This discharge is subject to a determination of “Pass” or “Fail” from a single-effluent concentration chronic toxicity test at the IWC (for statistical flowchart and procedures, see *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, Appendix A, Figure A-1). The chronic IWC for this discharge is 100 percent effluent.
- c. Effluent dilution water and control water should be standard synthetic dilution water, as described in the test methods manual *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used.
- d. If organisms are not cultured in-house, then concurrent testing with a reference toxicant shall be conducted. If organisms are cultured in-house, then monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).
- e. All multi-concentration reference toxicant test results must be reviewed and reported according to EPA guidance on the evaluation of concentration-response relationships found in *Method Guidance and Recommendations for Whole Effluent Toxicity (WET) Testing (40 CFR 136)* (EPA 821-B-00-004, 2000).
- f. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, then the permittee shall resample and retest within 14 days.
- g. If the discharged effluent is chlorinated, then chlorine shall not be removed from the effluent sample prior to toxicity testing without written approval by EPA.
- h. pH drift during a toxicity test may contribute to artifactual toxicity when pH-dependent toxicants (e.g., ammonia, metals) are present in the effluent. To determine whether or not pH drift is contributing to artifactual toxicity, the permittee shall conduct three sets of side-by-side toxicity tests in which the pH of

one treatment is controlled at the pH of the effluent while the pH of the other treatment is not controlled, as described in Section 11.3.6.1 of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002). Toxicity is confirmed to be artificial and due to pH drift when no toxicity above the chronic WET permit limit is observed in the treatments controlled at the pH of the effluent. Upon this confirmation and following written approval by the permitting authority, the permittee may use the procedures outlined in Section 11.3.6.2 of the chronic freshwater test methods manual to control effluent sample pH during the toxicity test.

5. Initial Investigation TRE Work Plan

Within 90 days of the permit effective date, the permittee shall prepare and submit to the permitting authority a copy of its Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan (1-2 pages) for review. This plan shall include steps the permittee intends to follow if toxicity is measured above the chronic WET limit and should include the following, at minimum:

- a. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- b. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.
- c. If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

6. Accelerated Toxicity Testing and TRE/TIE Process

- a. If the chronic WET limit is exceeded and the source of toxicity is known (e.g., a temporary plant upset), then the permittee shall conduct one additional toxicity test using the same species and test method. This toxicity test shall begin within 14 days of receipt of a test result exceeding the chronic WET permit limit. If the additional toxicity test does not exceed the chronic WET permit limit, then the permittee may return to the regular testing frequency.
- b. If the chronic WET limit is exceeded and the source of toxicity is not known, then the permittee shall conduct six additional toxicity tests using the same species and test method, approximately every two weeks, over a 12-week period. This testing shall begin within 14 days of receipt of a test result exceeding the chronic WET permit limit. If none of the additional toxicity tests exceed the chronic WET permit limit, then the permittee may return to the regular testing frequency.
- c. If one of the additional toxicity tests (in paragraphs 6.a or 6.b) exceeds the chronic WET permit limit, then, within 14 days of receipt of this test result, the permittee

shall initiate a TRE using, according to the type of treatment facility, EPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) or EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989). In conjunction, the permittee shall develop and implement a Detailed TRE Work Plan which shall include the following: further actions undertaken by the permittee to investigate, identify, and correct the causes of toxicity; actions the permittee will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and a schedule for these actions.

- d. The permittee may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, EPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996).

7. Reporting of Chronic Toxicity Monitoring Results

- a. The permittee shall report on the DMR for the month in which the toxicity test was conducted: “Pass” or “Fail” (based on the Welch’s t-test result) and the calculated “percent mean response at IWC”, where:

$$\text{percent mean response at IWC} = ((\text{Control mean response} - \text{IWC mean response}) \div \text{Control mean response}) \times 100$$

- b. The permittee shall submit a full laboratory report for all toxicity testing as an attachment to the DMR for the month in which the toxicity test was conducted. The laboratory report shall contain: the toxicity test results; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations.
- c. The permittee shall notify EPA and Guam EPA in writing within 14 days of becoming aware of an exceedance of the chronic WET limit. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

8. Permit Reopener for Chronic Toxicity

In accordance with 40 CFR Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or

receiving waterbody, as a result of the discharge; or to implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

D. Biosolids

“Biosolids” means non-hazardous sewage sludge, as defined in 40 CFR 503.9. Sewage sludge that is hazardous, as defined in 40 CFR 261, must be disposed of in accordance with the Resource Conservation and Recovery Act.

1. General Requirements

- a. All biosolids generated by the permittee shall be used or disposed of in compliance with the applicable portions of:
 - (1) 40 CFR 503 - for biosolids that are land applied, placed in a surface disposal site (dedicated land disposal site, monofill, or sludge-only parcel at a municipal landfill), or incinerated;
 - (2) 40 CFR 258 - for biosolids disposed of in a municipal solid waste landfill (with other material);
 - (3) 40 CFR 257 - for all biosolids use and disposal practices not covered under 40 CFR 258 or 503.

40 CFR 503, Subpart B (land application) sets requirements for biosolids that are applied for the purpose of enhancing plant growth or for land reclamation. 40 CFR 503, Subpart C (surface disposal) sets requirements for biosolids that are placed on the land for the purpose of disposal.

The permittee is responsible for assuring that all biosolids produced at its facility are used or disposed of in accordance with these rules, whether the permittee uses or disposes of the biosolids, itself, or transfers the biosolids to another party for further treatment, use, or disposal. The permittee is responsible for informing subsequent preparers, appliers, and disposers of the requirements that they must meet under these rules.

- b. Duty to mitigate: The permittee shall take all reasonable steps to prevent or minimize any biosolids use or disposal which has a likelihood of adversely affecting human health or the environment.
- c. No biosolids shall be allowed to enter wetlands or other waters of the United States.
- d. Biosolids treatment, storage, use, or disposal shall not contaminate groundwater.
- e. Biosolids treatment, storage, use, or disposal shall not create a nuisance such as objectionable odors or flies.

- f. The permittee shall assure that haulers transporting biosolids off site for treatment, storage, use, or disposal take all necessary measures to keep the biosolids contained. All haulers must have spill clean-up procedures. Trucks hauling biosolids that are not classified as Class A, as defined at 40 CFR 503.32(a), shall be cleaned as necessary after loading and after unloading so as to have no biosolids on the exterior of the truck body or wheels. Trucks hauling biosolids that are not Class A shall be tarped. Trucks hauling biosolids that are not Class A may not be used for hauling food or feed crops after unloading the biosolids, unless the permittee submits, for EPA approval, a hauling description of how trucks will be thoroughly cleaned prior to adding food or feed.
 - g. If biosolids are stored over two years from the time they are generated, then the permittee must ensure compliance with all surface disposal requirements under 40 CFR 503, Subpart C, or must submit a written notification to EPA and Guam EPA with the information under 40 CFR 503.20(b) demonstrating the need for longer temporary storage. During temporary storage (of any length of time) for biosolids that are not Class A, whether on the facility site or off-site, adequate procedures must be taken to restrict public access and access by domestic animals.
 - h. Any biosolids treatment, disposal, or storage site shall have facilities adequate to: divert surface runoff from adjacent areas, protect the site boundaries from erosion, and prevent any conditions that would cause drainage from the materials at the site to escape from the site. Adequate protection is defined as protection from at least a 100-year storm event and from the highest tidal stage that may occur.
 - i. There shall be adequate screening at the treatment plant headworks and/or at the biosolids treatment units to ensure that all pieces of metal, plastic, glass, and other inert objects with a diameter greater than 3/8" are removed.
2. Inspection and Entry

The EPA, Guam EPA, or an authorized representative thereof, upon presentation of credentials, shall be allowed by the permittee, directly or through contractual arrangements with their biosolids management contractors, to:

- a. Enter upon all premises where biosolids produced by the permittee are treated, stored, used, or disposed of, either by the permittee or another party to whom the permittee transfers the biosolids for treatment, storage, use, or disposal;
- b. Have access to and copy any records that must be kept under the conditions of this permit or 40 CFR 503, by the permittee or another party to whom the permittee transfers the biosolids for further treatment, storage, use, or disposal; and
- c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations used in biosolids treatment, storage, use, or disposal by

the permittee or another party to whom the permittee transfers the biosolids for treatment, use, or disposal.

3. Monitoring

- a. Biosolids shall be monitored for the following constituents, at the frequency specified in paragraph 3.b: arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, zinc, organic nitrogen, ammonia-nitrogen, and total solids. This monitoring shall be conducted using the methods in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (EPA publication SW-846), as required in 40 CFR 503.8(b)(4). All results must be reported on a 100% dry weight basis. Records of all analyses must state on each page of the laboratory report whether the results are expressed in “100% dry weight” or “as is”.
- b. The constituents in paragraph 3.a shall be monitored at the following frequency, based on the volume of sewage solids generated per year:

Volume Generated (dry metric tons per year)	Monitoring Frequency *
>0 - <290	Once per year
290 - <1,500	Four times per year
1,500 - <15,000	Six times per year
≥15,000	12 times per year

* If biosolids are removed for use or disposal on a routine basis, then monitoring should be scheduled at regular intervals throughout the year. If biosolids are stored for an extended period of time prior to use or disposal, then monitoring may occur either at regular intervals, or prior to use or disposal corresponding to tonnage accumulated during the period of storage.

- c. Class 1 facilities (facilities with pretreatment programs or other facilities designated as Class 1 by the Regional Administrator) and Federal facilities with >5 mgd influent flow shall sample biosolids twice per year for pollutants listed under CWA section 307(a), using best practicable detection limits.

4. Pathogen and Vector Control

Prior to land application, the permittee shall demonstrate that biosolids meet Class A or Class B pathogen reduction levels using one of the alternatives listed under 40 CFR 503.32.

- a. Prior to disposal in a surface disposal site, the permittee shall demonstrate that the biosolids meet Class B pathogen reduction levels or shall ensure that the site is covered at the end of each operating day. If pathogen reduction is demonstrated using a Process to Significantly/Further Reduce Pathogens, then the permittee shall maintain daily records of the operating parameters used to achieve this reduction.

If pathogen reduction is demonstrated by testing for fecal coliform and/or other pathogens, then samples must be drawn at the frequency described in paragraph 3.b, above. If Class B pathogen reduction levels are demonstrated using fecal coliform, then at least seven discrete samples must be drawn during each sampling event and a geometric mean calculated from these seven samples.

The following sample holding times between sample collection and sample analysis shall not be exceeded: fecal coliform - 24 hours when cooled to 4 °C if composted, mesophilically digested, or aerobically digested, 6 hours otherwise; Salmonella sp. - 24 hours when cooled to 4 °C; enteric viruses - 2 weeks when frozen; helminth ova - one month when cooled to 4 °C.

- b. For biosolids that are land applied or placed in a surface disposal site, the permittee shall track and keep records of the operational parameters used to achieve the Vector Attraction Reduction requirements in 40 CFR 503.33(b).

5. Surface Disposal

If biosolids are placed in a surface disposal site (dedicated land disposal site or monofill), then a qualified groundwater scientist shall develop a groundwater monitoring program for the site, or shall certify that the placement of biosolids on the site will not contaminate an aquifer.

6. Landfill Disposal

Biosolids placed in a municipal landfill shall be tested by the Paint Filter Liquids Test (Method Number 9095 in SW-846) at the frequency indicated in paragraph 3.b, above, or more often if necessary, to demonstrate that there are no free liquids.

7. Notification and Reporting

- a. The permittee, either directly or through contractual arrangements with their biosolids management contractors, shall comply with the following notification requirements:

- (1) Notification of noncompliance: The permittee shall notify EPA and Guam EPA of any noncompliance within 24 hours, if the noncompliance may seriously endanger health or the environment. For other instances of noncompliance, the permittee shall notify EPA and Guam EPA, in writing, within five working days of becoming aware of the circumstances. The

permittee shall require their biosolids management contractors to notify EPA and Guam EPA of any noncompliance within these same timeframes.

- (2) Interstate notification: If biosolids are shipped to another State, Tribal Lands, or Territory, then the permittee shall send a 60-day prior notice of the shipment to permitting authorities in the receiving State, Tribal Lands, or Territory, and EPA Regional Office.
- (3) Land Application: Prior to using any biosolids from this facility (other than composted biosolids) at a new or previously unreported site, the permittee shall notify EPA and Guam EPA. The notification shall include: a description and topographic map of the proposed site(s), names and addresses of the applier and site owner, and a list of any state or local permits which must be obtained. The plan shall include a description of the crops or vegetation to be grown, proposed loading rates, and determination of agronomic rates.

If any biosolids within a given monitoring period do not meet the pollutant limits for metals under 40 CFR 503.13, then the permittee (or its contractor) must pre-notify EPA and determine the cumulative metals loading to date at that site, as required in 40 CFR 503.12.

The permittee shall notify the applier of 40 CFR 503-requirements that are applicable to the applier, including applier certification that management practices, site restrictions, and vector attraction reduction requirements have been met. The permittee shall require the applier to certify at the end of 38 months following the application of Class B biosolids, that the harvesting restrictions in effect for up to 38 months have been met.

- (4) Surface Disposal: Prior to disposal at a new or previously unreported site, the permittee shall notify EPA and Guam EPA. The notice shall include: a description and topographic map of the proposed site, depth to groundwater, whether the site is lined or unlined, site operator, site owner, and any State or local permits. The notice shall describe procedures for ensuring restricted public access and grazing restrictions for three years following site closure. The notice shall include a groundwater monitoring plan, or a description of why groundwater monitoring is not required.
- b. The permittee shall submit an annual biosolids report to the EPA Region 9 Biosolids Coordinator and Guam EPA by February 19 of each year for the period covering the previous calendar year. This report shall include:
- (1) The amount of biosolids generated that year and the amount of biosolids accumulated from previous years, in dry metric tons.
 - (2) Results of all pollutant monitoring required in the Monitoring section, above, reported on a 100% dry weight basis.

- (3) Demonstrations and certifications of pathogen reduction methods and vector attraction reduction methods, as required in 40 CFR 503.17 and 503.27.
- (4) Names, mailing addresses, and street addresses of persons who received biosolids for storage, further treatment, or disposal in a municipal waste landfill, or for other use or disposal methods not covered above, and the tonnages delivered to each.
- (5) For land application sites, the following information must be submitted by the permittee, unless the permittee requires its biosolids management contractors to report this information directly to the EPA Region 9 Biosolids Coordinator:

The locations of land application sites used that calendar year (with field names and numbers), size of each field applied to, applicator, and site owner; the volumes applied to each field (in wet tons and dry metric tons), nitrogen applied, and calculated plant available nitrogen; the crop planted, date of planting, and date of harvesting; for biosolids exceeding 40 CFR 503.13 Table 3 pollutant concentrations, the locations of sites where applied and cumulative metals loading at that site to date; certifications of management practices in 40 CFR 503.14 and certifications of site restrictions in 40 CFR 503.17(b)(6).

- (6) For surface disposal sites: The locations of sites, site operator, site owner, and size of parcel on which disposed; the results of any required groundwater monitoring; certifications of management practices in 40 CFR 503.24; and for closed sites, the date of site closure and certifications of management practices for the three years following site closure.
- (7) All reports shall be submitted to:

Regional Biosolids Coordinator
U.S. Environmental Protection Agency
Region 9
NPDES Permits Office (WTR 2-3)
75 Hawthorne Street
San Francisco, CA 94105-3901

Administrator
Guam Environmental Protection Agency
P.O. Box 22439 GMF
Barrigada, GU 96921

E. Sanitary Sewer Overflows

1. A Sanitary Sewer Overflow (SSO) is an overflow, spill, release, or diversion of wastewater from a sanitary sewer collection system designed to carry only sewage and prior to reaching the treatment plant. Sanitary sewer overflows include a) overflows or releases of wastewater that reach waters of the US, b) overflows or

- releases of wastewater that do not reach waters of the US, and c) wastewater backups into buildings that are caused by blockages or flow conditions in a sanitary sewer other a building lateral. SSOs are generally caused by high volumes of infiltration and inflow (I/I), pipe blockages, pipe breaks, power failure, and insufficient system capacity.
2. Sanitary Sewer Overflow identification: The permittee shall identify all wastewater discharges, at locations not authorized as permitted outfalls, which occur prior to the headworks of the wastewater treatment plant covered by this permit. The permittee shall submit, with the scheduled DMR Form, the following information for each discharge event at each source that occurs during the reporting period covered by the DMR Form:
 1. The cause of the discharge;
 2. Duration and volume (estimate, if unknown);
 3. Description of the source (e.g., manhole cover, pump station, etc.);
 4. Type of collection system that overflowed (i.e., combined or separate);
 5. Location by street address, or any other appropriate method;
 6. Date(s) and time(s) of event;
 7. The ultimate destination of the flow, e.g., surface water body, land use location, via municipal separate storm sewer system to a surface water body (show location on a USGS map or copy thereof); and
 8. Corrective action taken and steps taken or planned to eliminate reoccurrence of discharge.

The permittee shall refer to Part III.B, Twenty-Four Hour Reporting of Noncompliance, of this permit which contains information about reporting unpermitted discharge events. Submittal or reporting of any of this information does not provide relief from any subsequent enforcement actions for unpermitted discharges to waters of the United States.

F. Priority Pollutant Scan

The permittee shall monitor and test for the full list of priority pollutants at 40 CFR Part 423, Appendix A. The testing shall be conducted using approved standard EPA methodology by a qualified laboratory, on 24-hour composite samples of the effluent. No limits are set at this time. The permittee is required to complete this test once during the permit term.

Part IV. POLLUTION PREVENTION AND BEST MANAGEMENT PRACTICES

In accordance with section 304(e) of the CWA and 40 CFR 122.44(k), the permittee shall develop and implement appropriate pollution prevention measures and best management practices (“BMPs”) that are designed to control the discharge of pollutants, including:

1. The Plan must control site runoff, spillage or leaks, sludge or waste disposal, and drainage from collection system, storage/supply, and treatment/operation/process areas that may contribute pollutants to surface waters within 90 days from the effective date of this permit.
2. The Plan must have management approval and be maintained and amended whenever there is a change in design, construction, operation, or maintenance of the facility which has a significant effect on the discharge, or potential for discharge, of pollutants from the facility.
3. The Plan must be maintained and amended whenever there is indication of pollutants in the effluent discharge that may impact water quality standards; indication of pollutants requires the permittee to evaluate potential pollutant sources and corresponding BMPs and make appropriate Plan revisions; the permittee shall implement timely corrective actions and revise BMPs, as necessary.
4. The Plan must be retained on-site and be made available, upon request, for review at the time of an EPA and/or a Guam EPA inspection.

Part V. ATTACHMENTS

Attachment A: Standard Permit Conditions

A. *All NPDES Permits*

In accordance with 40 CFR 122.41, the following conditions apply to all NPDES permits and are expressly incorporated into this permit.

- a. Duty to comply; at 40 CFR 122.41(a).

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

- (1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under 405(d) of the CWA within the time provided in the regulations that established these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The CWA provides that any person who *negligently* violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, such as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402 of this Act. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

b. Duty to reapply; at 40 CFR 122.41(b).

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

c. Need to halt or reduce activity not a defense; at 40 CFR 122.41(c).

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

d. Duty to mitigate; at 40 CFR 122.41(d).

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

e. Proper operation and maintenance; at 40 CFR 122.41(e).

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

f. Permit actions; at 40 CFR 122.41(f).

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

g. Property rights; at 40 CFR 122.41(g).

This permit does not convey any property rights of any sort, or any exclusive privilege.

h. Duty to provide information; at 40 CFR 122.41(h).

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

i. Inspection and entry; at 40 CFR 122.41(i).

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.
- j. Monitoring and records; at 40 CFR 122.41(j).
- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time.
 - (3) Records of monitoring information shall include:
 - (i) The date, exact place, and time of sampling or measurements;
 - (ii) The individual(s) who performed the sampling or measurements;
 - (iii) The date(s) analyses were performed
 - (iv) The individuals(s) who performed the analyses;
 - (v) The analytical techniques or methods used; and
 - (vi) The results of such analyses.
 - (4) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR part 503, unless other test procedures have been specified in the permit.

- (5) The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.
- k. Signatory requirement; at 40 CFR 122.41(k).
- (1) All applications, reports, or information submitted to the Director shall be signed and certified. (See 40 CFR 122.22.)
 - (2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.
- l. Reporting requirements; at 40 CFR 122.41(l).
- (1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alternations or additions to the permitted facility. Notice is required only when:
 - (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or
 - (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).
 - (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;
 - (2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
 - (3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of

the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the CWA. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory.)

- (4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
 - (i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
 - (ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 503, or as specified in the permit, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
 - (iii) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
- (5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
- (6) Twenty-four hour reporting.
 - (i) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - (ii) The following shall be included as information which must be reported within 24 hours under this paragraph.
 - (A) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR 122.41(g).)
 - (B) Any upset which exceeds any effluent limitation in the permit.

(C) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See 40 CFR 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under 40 CFR 122.41(1)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under 40 CFR 122.41(1)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (1)(6) of this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

m. Bypass; at 40 CFR 122.41(m).

(1) Definitions.

(i) “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 40 CFR 122.41(m)(3) and (m)(4) of this section.

(3) Notice.

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (1)(6) of this section (24-hour notice).

(4) Prohibition of bypass.

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(A) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section.

(ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

n. Upset; at 40 CFR 122.41(n).

(1) Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent cause by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(i) An upset occurred and that the permittee can identify the cause(s) of the upset;

(ii) The permitted facility was at the time being properly operated; and

(iii) The permittee submitted notice of the upset as required in paragraph (1)(6)(ii)(B) of this section (24 hour notice).

(iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

B. *Specific Categories of NPDES Permits*

In accordance with 40 CFR 122.42, the following conditions, in addition to those set forth at 40 CFR 122.41, apply to all NPDES permits within the category specified below and are expressly incorporated into this permit.

a. Publicly owned treatment works; at 40 CFR 122.42(b).

(1) All POTWs must provide adequate notice to the Director of the following:

(1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 and 306 of the CWA if it were directly discharging those pollutants; and

(2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

(3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

(2) The following condition has been established by EPA Region 9 to enforce applicable requirements of the Resource Conservation and Recovery Act. Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261 and include any mixture containing any waste listed under 40 CFR 261.31 through 261-33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

C. *Standard Conditions Established by EPA Region 9 for All NPDES Permits*

1. Duty to reapply; at 40 CFR 122.21(d).

a. Any POTW with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a

- later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)
- b. All other permittees with currently effective permits shall submit a new application 180 days before the existing permit expires, except that:
 - (1) the Regional Administrator may grant permission to submit an application later than the deadline for submission otherwise applicable, but no later than the permit expiration date.
2. Signatories to permit applications and reports; at 40 CFR 122.22.
- a. Applications. All permit applications shall be signed as follows:
 - (1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in 40 CFR 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under 40 CFR 122.22(a)(1)(ii) rather than to specific individuals.
 - (2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or
 - (3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

- b. All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- (1) The authorization is made in writing by a person described in paragraph (a) of this section;
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters of the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,
 - (3) The written authorization is submitted to the Director.
- c. Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.
- d. Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

3. Reopener Clause; at 40 CFR 122.44(c).

For any permit issued to a treatment works treating domestic sewage (including “sludge-only facilities”), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

4. Transfer of permits; at 40 CFR 122.61.

- a. Transfers by modification. Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 40 CFR 122.62(b)(2)), or a minor modification made (under 40 CFR 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.
- b. Automatic transfers. As an alternative to transfers under paragraph (a) of this section, any NPDES permit may be automatically transferred to a new permittee if:
 - (1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (b)(2) of this section;
 - (2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - (3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under 40 CFR 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.

5. Minor modifications of permits; at 40 CFR 122.63.

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of 40 CFR 124. Any permit modification not processed as a minor modification under this section must be made for cause and with 40 CFR 124 draft permit and public notice as required in 40 CFR 122.62. Minor modifications may only:

- a. Correct typographical errors;
- b. Require more frequent monitoring or reporting by the permittee;
- c. Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or
- d. Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.

- e. (1) Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge under 40 CFR 122.29.

(2) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.
 - f. [Reserved]
 - g. Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.
6. Termination of permits; at 40 CFR 122.64.
- a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:
 - (1) Noncompliance by the permittee with any conditions of the permit;
 - (2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;
 - (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
 - (4) A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).
 - b. The Director shall follow the applicable procedures in 40 CFR 124 or 40 CFR 122.22, as appropriate (or State procedures equivalent to 40 CFR 124) in terminating any NPDES permit under this section, except that if the entire discharge is permanently terminated by elimination of the flow or by connection to a POTW (but not by land application or disposal into a well), the Director may terminate the permit by notice to the permittee. Termination by notice shall be effective 30 days after notice is sent, unless the permittee objects within that time. If the permittee objects during that period, the Director shall follow 40 CFR 124 or applicable State procedures for termination. Expedited permit termination procedures are not available to permittees that are subject to pending State and/or Federal enforcement actions including citizen suits brought under State or Federal law. If requesting expedited permit termination procedures, a permittee must certify that it is not subject to any pending State or Federal enforcement actions including citizen suits brought under State or Federal

law. State-authorized NPDES programs are not required to use part 22 of this chapter's procedures for NPDES permit terminations.

7. Availability of Reports; pursuant to CWA section 308

Except for data determined to be confidential under 40 CFR 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the CWA, permit applications, permits, and effluent data shall not be considered confidential.

8. Removed Substances; pursuant to CWA section 301

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials entering waters of the U.S.

9. Severability; pursuant to CWA section 512

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of this permit, shall not be affected thereby.

10. Civil and Criminal Liability; pursuant to CWA section 309

Except as provided in permit conditions on "Bypass" and "Upset", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

11. Oil and Hazardous Substances Liability; pursuant to CWA section 311

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the CWA.

12. State, Tribe, or Territory Law; pursuant to CWA section 510

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State, Tribe, or Territory law or regulation under authorities preserved by CWA section 510.

Attachment B: Definitions

1. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges"

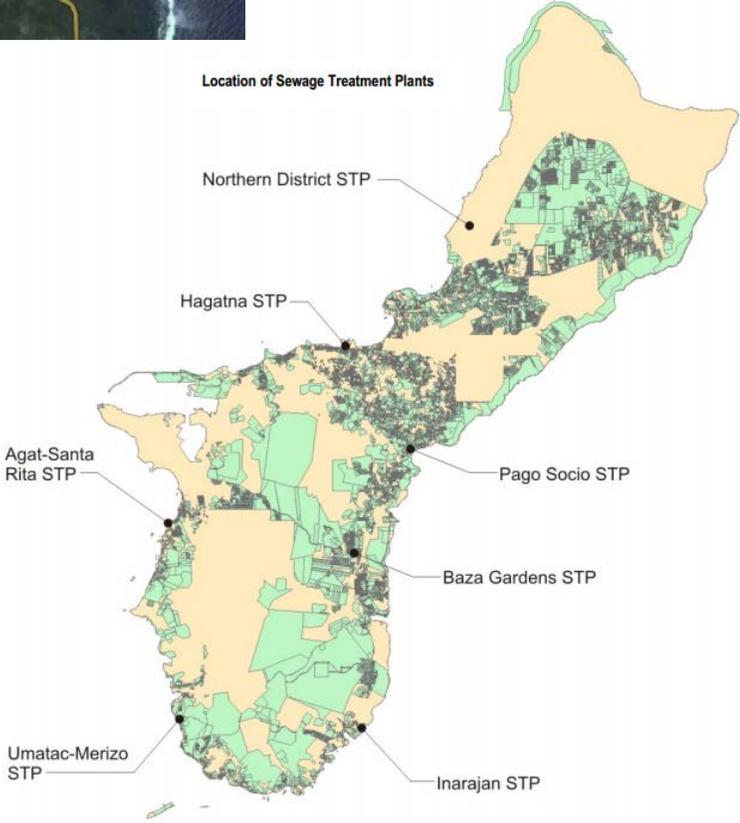
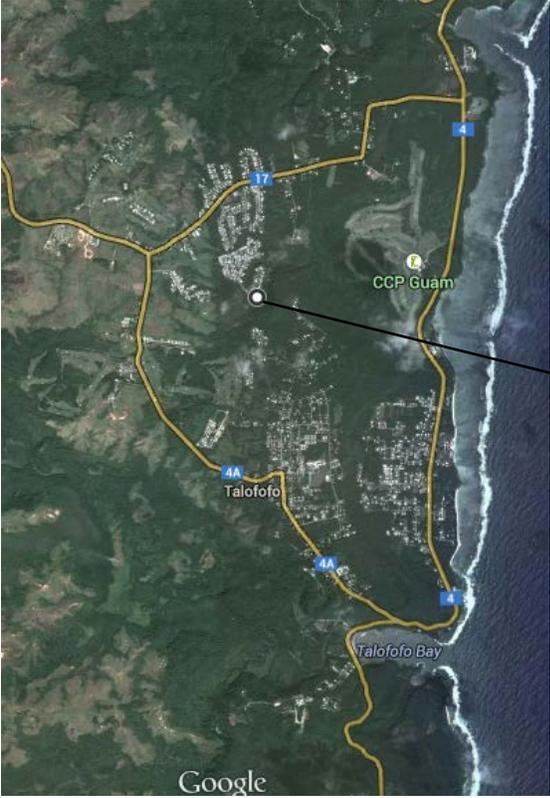
measured during a calendar month divided by the number of “daily discharges” measured during that month.

2. “Average weekly discharge limitation” means the highest allowable average of “daily discharges” over a calendar week, calculated as the sum of all “daily discharges” measured during a calendar week divided by the number of “daily discharges” measured during that week.
3. “Ammonia Impact Ratio” is the ratio of the concentration of ammonia in the effluent and the calculated ammonia standard using the equation in GEPA’s water quality standard (see Attachment F for the equation).
4. “Best Management Practices” or “BMPs” are schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the U.S. BMPs include treatment systems, operating procedures, identification of necessary training, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may further be characterized as operational, source control, erosion and sediment control, and treatment BMPs.
5. A “composite” sample means a time-proportioned mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours). The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 MRL. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of Standard Methods for the Examination of Water and Wastewater shall be used.
6. A “daily discharge” means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.
7. A “daily maximum allowable effluent limitation” means the highest allowable “daily discharge.”
8. A “DMR” is a “Discharge Monitoring Report” that is an EPA uniform national form, including any subsequent additions, revisions, or modifications for reporting of self-monitoring results by the permittee.
9. A “Discrete” sample is a single sample collected at a particular time and place that represents the composition of the discharge only at that time and place. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling

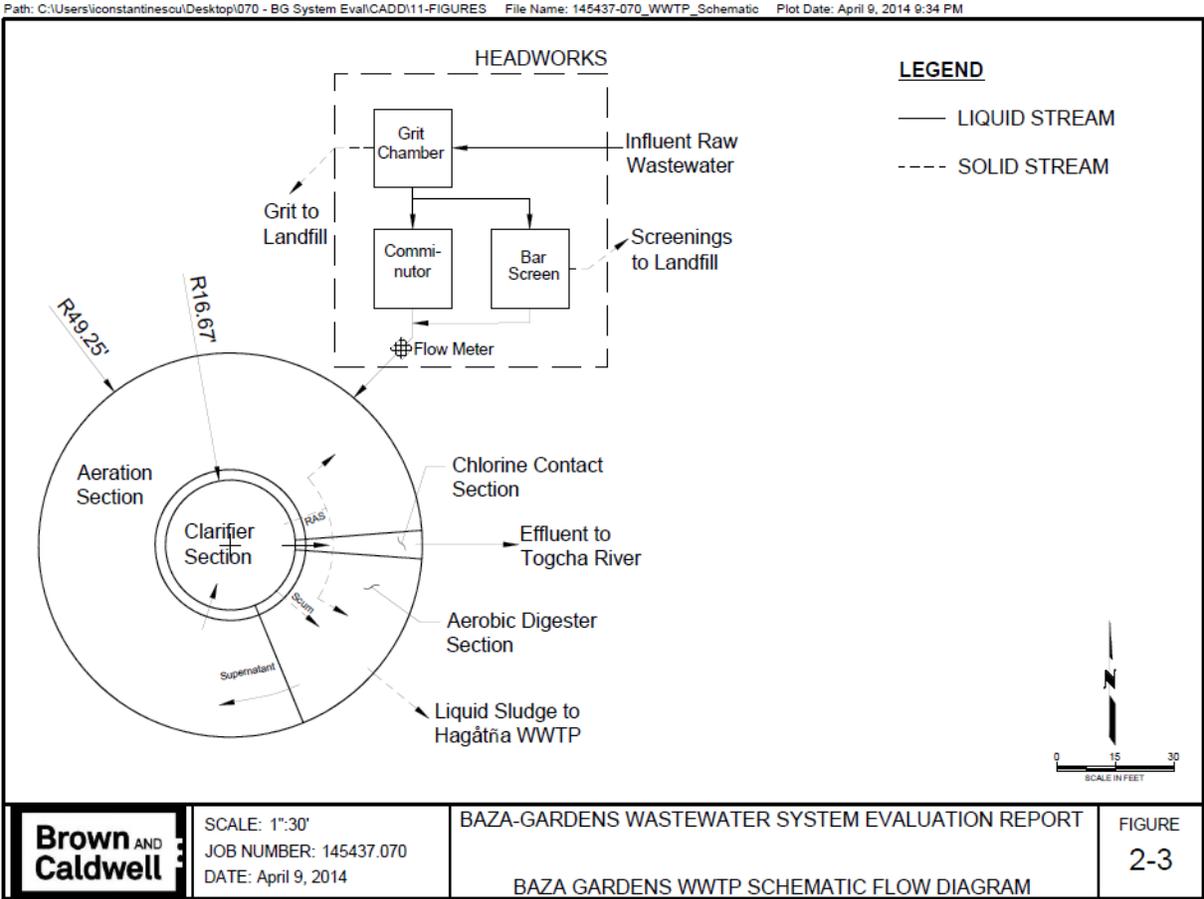
procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of Standard Methods for the Examination of Water and Wastewater shall be used.

10. The “method detection limit” or “MDL” is the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero, as defined by a specific laboratory method in 40 CFR 136. The procedure for determination of a laboratory MDL is in 40 CFR 136, Appendix B.
11. The “minimum level” or “MRL” is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The MRL is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed (as defined in EPA’s draft National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels, March 22, 1994). If a published method-specific MRL is not available, then an interim MRL shall be calculated. The interim MRL is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an MRL nor MDL are available under 40 CFR 136, an interim MRL should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the MRL.) At this point in the calculation, a different procedure is used for metals, than non-metals:
 - a. For metals, due to laboratory calibration practices, calculated MRLs may be rounded to the nearest whole number.
 - b. For non-metals, because analytical instruments are generally calibrated using the MRL as the lowest calibration standard, the calculated MRL is then rounded to the nearest multiple of $(1, 2, \text{ or } 5) \times 10^n$, where n is zero or an integer. (For example, if an MDL is $2.5 \mu\text{g/l}$, then the calculated MRL is: $2.5 \mu\text{g/l} \times 3.18 = 7.95 \mu\text{g/l}$. The multiple of $(1, 2, \text{ or } 5) \times 10^n$ nearest to 7.95 is $1 \times 10^1 = 10 \mu\text{g/l}$, so the calculated MRL, rounded to the nearest whole number, is $10 \mu\text{g/l}$.)
12. A “NODI(B)” means that the concentration of the pollutant in a sample is not detected. NODI(B) is reported when a sample result is less than the laboratory’s MDL.
13. A “NODI(Q)” means that the concentration of the pollutant in a sample is detected but not quantified. NODI(Q) is reported when a sample result is greater than or equal to the laboratory’s MDL, but less than the MRL.

Attachment C: Location Map



Attachment D: Wastewater Flow Schematic



ATTACHMENT E. (cont.) Guam Environmental Protection Agency Water Quality Standards, Section “3. Nutrients”

c. Ammonia nitrogen per liter limits vary with pH:

i. The one (1) hour average concentration of total ammonia nitrogen (mg N/l) does not exceed, more than once every three (3) years on the average, the Criteria Maximum Concentration (“CMC”) (see Section 5105 Definitions) calculated using the following equation:

S-1, S-2, S-3

$$CMC = \frac{0.411}{1 + 10^{(7.204 - pH)}} + \frac{58.4}{1 + 10^{(pH - 7.204)}}$$

ii. The thirty-(30) day average concentration of total ammonia nitrogen (mg N/l) does not exceed, more than once every three (3) years on the average, the Criteria Chronic Concentration (“CCC”) (see Section 5105 Definitions) calculated using the following equation:

$$CCC = \frac{0.0858}{1 + 10^{(7.288 - pH)}} + \frac{3.70}{1 + 10^{(pH - 7.288)}}$$

iii. CMC and CCC (mg N/l) at a few example pH Values.

pH	CMC	CCC
6.5	48.8	3.48
7.0	36.1	3.08
7.5	19.9	2.28
8.0	8.40	1.27
8.5	3.20	0.57
9.0	1.32	0.25

iv. The ambient concentration, averaged over a period of thirty (30) days, should not exceed the CCC. The ambient concentration, averaged over four (4) days, should not exceed a concentration two (2) times greater than the CCC. The averaging period applicable to the CMC is one (1) hour.

Attachment F. List of Priority Pollutants

1. Acenaphthene
2. Acrolein
3. Acrylonitrile
4. Benzene
5. Benzidine
6. Carbon tetrachloride
7. Chlorobenzene
8. 1,2,4-trichlorobenzene
9. Hexachlorobenzene
10. 1,2-dichloroethane
11. 1,1,1-trichloroethane
12. Hexachloroethane
13. 1,1-dichloroethane
14. 1,1,2-trichloroethane
15. 1,1,2,2-tetrachloroethane
16. Chloroethane
17. REMOVED
18. Bis(2-chloroethyl) ether
19. 2-chloroethyl vinyl ethers
20. 2-chloronaphthalene
21. 2,4,6-trichlorophenol
22. Parachlorometa cresol
23. Chloroform
24. 2-chlorophenol
25. 1,2-dichlorobenzene
26. 1,3-dichlorobenzene
27. 1,4-dichlorobenzene
28. 3,3-dichlorobenzidine
29. 1,1-dichloroethylene
30. 1,2-trans-dichloroethylene
31. 2,4-dichlorophenol
32. 1,2-dichloropropane
33. 1,3-dichloropropylene
34. 2,4-dimethylphenol
35. 2,4-dinitrotoluene
36. 2,6-dinitrotoluene
37. 1,2-diphenylhydrazine
38. Ethylbenzene
39. Fluoranthene
40. 4-chlorophenyl phenyl ether
41. 4-bromophenyl phenyl ether
42. Bis(2-chloroisopropyl) ether
43. Bis(2-chloroethoxy) methane
44. Methylene chloride
45. Methyl chloride
46. Methyl bromide
47. Bromoform
48. Dichlorobromomethane
49. REMOVED
50. REMOVED
51. Chlorodibromomethane
52. Hexachlorobutadiene
53. Hexachlorocyclopentadiene
54. Isophorone
55. Naphthalene
56. Nitrobenzene
57. 2-nitrophenol
58. 4-nitrophenol
59. 2,4-dinitrophenol
60. 4,6-dinitro-o-cresol
61. N-nitrosodimethylamine
62. N-nitrosodiphenylamine
63. N-nitrosodi-n-propylamine
64. Pentachlorophenol
65. Phenol
66. Bis(2-ethylhexyl) phthalate
67. Butyl benzyl phthalate
68. Di-N-Butyl Phthalate
69. Di-n-octyl phthalate
70. Diethyl Phthalate
71. Dimethyl phthalate
72. benzo(a) anthracene
73. Benzo(a)pyrene
74. Benzo(b) fluoranthene
75. Benzo(k) fluoranthene
76. Chrysene
77. Acenaphthylene
78. Anthracene
79. Benzo(ghi) perylene
80. Fluorene
81. Phenanthrene
82. Dibenzo(,h) anthracene
83. Indeno (1,2,3-cd) pyrene
84. Pyrene
85. Tetrachloroethylene
86. Toluene
87. Trichloroethylene
88. Vinyl chloride

- | | | | |
|------|--------------------------|------|--------------------------|
| 89. | Aldrin | 110. | PCB-1248 (Arochlor 1248) |
| 90. | Dieldrin | 111. | PCB-1260 (Arochlor 1260) |
| 91. | Chlordane | 112. | PCB-1016 (Arochlor 1016) |
| 92. | 4,4-DDT | 113. | Toxaphene |
| 93. | 4,4-DDE | 114. | Antimony |
| 94. | 4,4-DDD | 115. | Arsenic |
| 95. | Alpha-endosulfan | 116. | Asbestos |
| 96. | Beta-endosulfan | 117. | Beryllium |
| 97. | Endosulfan sulfate | 118. | Cadmium |
| 98. | Endrin | 119. | Chromium |
| 99. | Endrin aldehyde | 120. | Copper |
| 100. | Heptachlor | 121. | Cyanide, Total |
| 101. | Heptachlor epoxide | 122. | Lead |
| 102. | Alpha-BHC | 123. | Mercury |
| 103. | Beta-BHC | 124. | Nickel |
| 104. | Gamma-BHC | 125. | Selenium |
| 105. | Delta-BHC | 126. | Silver |
| 106. | PCB-1242 (Arochlor 1242) | 127. | Thallium |
| 107. | PCB-1254 (Arochlor 1254) | 128. | Zinc |
| 108. | PCB-1221 (Arochlor 1221) | 129. | 2,3,7,8-TCD ¹ |
| 109. | PCB-1232 (Arochlor 1232) | | |

¹ Although there are 126 entries, the last number on the list is 129 because entry numbers 17, 49, and 50 were removed.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET
March 6, 2015

Permittee Name: Guam Waterworks Authority

Mailing Address: P.O. Box 3010
Hagåtña, Guam 96910

Facility Location: Baza Gardens Sewage Treatment Plant
Baza Gardens Street
Talofofo, Guam 96915

Contact Person(s): Paul Kemp, Assistant General Manager
(671) 300 – 6885
Vangie Lujan, Senior Regulatory Analyst
(671) 300 – 6887

NPDES Permit No.: GU0020095

I. STATUS OF PERMIT

Guam Waterworks Authority (the “permittee”) has applied for the renewal of its National Pollutant Discharge Elimination System (“NPDES”) permit to authorize the discharge of treated effluent from the Baza Gardens Sewage Treatment Plant (the “facility” or “Baza Gardens STP”) to the Togcha River. A completed application was submitted on April 10, 2014. The Environmental Protection Agency (“EPA”) Region IX is reissuing this facility’s permit pursuant to the Clean Water Act (“CWA”) section 402. CWA section 402, and EPA’s implementing regulations, contain provisions that govern EPA’s authorization to require NPDES permit conditions. (40 CFR 122).

The permittee currently is discharging under NPDES permit GU0020095, which was issued on November 28, 2008. Pursuant to 40 CFR 122.21, the terms of the existing permit are administratively extended until the issuance of a new permit.

This permittee is classified as a minor discharger since its design flow is less than one million gallons per day (“mgd”).

II. GENERAL DESCRIPTION OF FACILITY

The permittee operates a publicly owned treatment works (“POTW”) or sewage treatment plant (“STP”) serving the town of Talofofo and the Baza Gardens community. These communities have an approximate population of 3,070. The facility has a design flow of 0.60 mgd. The Baza Gardens STP was put into service in 1975. See Attachment A, “Location of Baza Gardens STP on Guam.”

The facility provides secondary treatment of wastewater using an activated sludge package system. The STP uses a single process train, extended aeration activated sludge process, to meet

its design secondary treatment objective. Chlorination currently is not used at the facility. The treated effluent is discharged to the Togcha River through Outfall No. 001. See Attachment B, "Diagram of the Wastewater Treatment Process at Baza Gardens STP."

Biosolids are periodically pumped into a tanker truck and hauled to the Hagatna (Agana) STP or the Northern District STP for digestion and dewatering. Final dewatered cake disposal is at the Layon Landfill. See Attachment C, "Wastewater Flow Diagram for the Baza Gardens STP."

III. DESCRIPTION OF RECEIVING WATER

The facility discharges to the Togcha River through the Togcha River Exfiltration Trench at latitude 12° 22' 16" N and longitude 114° 44' 49" E. The previous factsheet explained that the trench consists of a limestone bed rock pit, layered with various sizes of limestone rock and clean crushed coral, and is approximately 60 feet from the banks of the Togcha River. The trench reduces the velocity of the effluent and diffuses the discharge into the receiving water (i.e. rock infiltrator). The Togcha River follows a two-mile course before flowing into the Pacific Ocean.

The Guam Environmental Protection Agency ("GEPA") adopted water quality standards ("WQS") for different surface waterbodies, depending on the level of protection required. The WQS, revised in 2001, provides water quality criteria by surface waterbody classification. The Togcha River is located within the area classified as Category S-3, low quality surface water(s). Category S-3 waters primarily are used for commercial, agricultural, and industrial activities. Aesthetic enjoyment and limited body contact recreation are acceptable in this zone, as well as maintenance of aquatic life. (GEPA 2001).

There are no known impairments for Togcha River. However, a downstream waterbody, Talofofa Bay (and neighboring beaches), is impaired for *Enterococci* bacteria. *Enterococci* bacteria are common indicators in marine environments, such as Talofofa Bay. (EPA 2014).

IV. DESCRIPTION OF DISCHARGE

The facility provides secondary treatment of wastewater using an activated sludge package treatment system. The wastewater influent enters the headworks and passes through an aerated grit chamber followed by a comminutor. If the flow exceeds the comminutor capacity, a channel equipped with a manually-cleaned bar rack allows de-gritted wastewater to bypass the comminutor. Once the wastewater enters the aeration section, it is aerated and mixed with return activated sludge. The mixed liquor from the aeration tank flows into the secondary clarifier and then into the chlorine contact tank. However, chlorination currently is not practiced at the STP. The activated sludge is stabilized in the aerobic digester before being pumped into a tanker truck and hauled to the Hagatna (Agana) STP or the Northern District STP. Final dewatered cake disposal is at the Layon Landfill. See Attachments B and C for a flow schematic and description of the wastewater treatment process at Baza Gardens STP.

Inspections in 2012 documented the treatment units in poor condition and as functioning improperly. Specifically, the inspectors observed corroded tanks walls, unfunctional gear boxes in the clarifier, and inefficient aeration. At the time of inspection, the facility was not configured

to remove nitrate or phosphorus and had no system in place for disinfection of the effluent (i.e. chlorination, UV treatment, etc.). With biosolid management, the inspectors recorded concentrations of the mixed liquor suspended solids (“MLSS”) in the aeration tank below the target range. The inspectors also stated that the age of the mechanical components elevates the risk of major failures and makes it more difficult to secure replacement parts, as these are not readily in stock. These observations may explain why the facility exceeded its effluent limits for nutrients and bacteria.

The previous permit contained effluent limits for 11 parameters and monitoring requirements for an additional 5 parameters. Data provided from the application and DMRs are summarized in the subsequent sections, see sections “Application Discharge Data” and “Discharge Monitoring Report Data (2008-2013) below.”

A. Application Discharge Data

As part of the application for permit renewal, the permittee provided data from an analysis of the facility’s wastewater discharge. This data is presented in Table 1.

Table 1. Application Discharge Data from Permittee’s Renewal Application.

Parameter	Units	Discharge Data	
		Max Daily	Average
Flow	mgd	1.16	0.10
pH	standard units	8.03 – 8.40 (min. – max.)	
Biochemical Oxygen Demand, 5-day (BOD ₅)	mg/L	63.11	18.55
Total Suspended Solids (TSS)	mg/L	194.80	20.29
Temperature	°C	30.30	20.24
Fecal Coliform	cfu/100mL	241,966.00	173,085.00
Ammonia-N	mg/L	40.90	18.78
Total Residual Chlorine	mg/L	0.00 ⁽¹⁾	0.00 ⁽¹⁾
Dissolved Oxygen	mg/L	6.83 ⁽²⁾	5.40
Total Kjeldahl Nitrogen (TKN)	mg/L	53.20	21.11
Nitrate + Nitrite (as N)	mg/L	4.23	0.54
Oil and Grease	mg/L	(3)	(3)
Phosphorus (Total)	lbs/day	4.07	(3)
	mg/L	(3)	1.53
Total Dissolved Solids (TDS)	mg/L	0.00	(3)

(1) Facility does not disinfect and therefore, does not have chlorine in the discharge.

(2) The permittee corrected a typo on the permit application on 9/29/2014.

(3) Permit application left blank or data not provided.

B. Discharge Monitoring Report Data (2008-2013)

As reported in the Baza Gardens Wastewater System Evaluation, the sampled effluent, as recorded in the monthly DMRs, did not meet effluent limits at least once a month in 40 of the 60 month period [October 2008 to July 2013]. The most commonly exceeded parameters were *E. coli* (*Escherichia coli*) and nutrients (i.e. phosphorous and nitrogen). (Lekven and Constantinescu 2014).

EPA confirmed these exceedances by reviewing DMR data for the period of January 2009 to March 2014 (i.e. 63 months). Based on effluent monitoring data submitted by the facility during this 63-month timeframe, the permittee reported elevated concentrations of BOD, TSS, *E. coli*, fecal coliform, and nutrients (i.e. orthophosphate, nitrate-nitrogen, and ammonia-N). Table 2 (on the next page) provides a detail summary of effluent limitations and monitoring data during this timeframe.

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Table 2. Discharge Monitoring Report Data for January 2009 to March 2014.

Parameter	Units	Previous (2008 – 2013) Permit Effluent Limitations			Discharge Monitoring Data (between 2009 – 2014)			Previous (2008 – 2013) Monitoring Req.	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Maximum Daily	Monitoring Frequency	Sample Type
Flow Rate	MGD	0.60	--	--	0.34	--	--	Continuous	Metered
pH	Std. Units	Between 6.5 – 8.5 at all time			6.5 – 7.9 (min – max)			Weekly	Discrete
Biochemical Oxygen Demand (5-day)	mg/L	30	45	--	34	50	--	Weekly	24-hr Composite
	lbs/day ⁽¹⁾	150	225	--	34	47	--		
	Percent Removal	Not less than 85% BOD ₅ removal ⁽²⁾			0.47 % (minimum)				
Total Suspended Solids	mg/L	30	45	--	28	95	--	Weekly	24-hr Composite
	lbs/day ⁽¹⁾	150	225	--	44	151	--		
	Percent Removal	Not less than 85% TSS removal ⁽²⁾			0.70 % (minimum)				
<i>E. coli</i>	CFU/100 mL	The geometric mean shall not exceed 126.	--	406	1,413,600 ⁽⁷⁾	--	421,162 ⁽⁷⁾	Weekly	Discrete
Fecal Coliform	CFU/100 mL	200	400	--	1,413,768 ⁽⁷⁾	2,419,600 ⁽⁷⁾	--	Weekly	Discrete
Total Residual Chlorine ⁽³⁾	µg/L	6.1 ⁽³⁾	--	12 ⁽³⁾	⁽³⁾	--	⁽³⁾	Weekly	Discrete
	lbs/day ⁽¹⁾	0.03 ⁽³⁾	--	0.06 ⁽³⁾	⁽³⁾	--	⁽³⁾		
Nitrate-Nitrogen (NO ₄ -N)	mg/L	0.41	--	0.82	3.32	--	4.58	Weekly	24-hr Composite
	lbs/day ⁽¹⁾	2.1	--	4.1	3.04	--	6.18		
Ammonia-Nitrogen (NH ₃ + NH ₄ -N)	mg/L	0.65	--	1.31	31.31	--	32.8	Weekly	24-hr Composite
	lbs/day ⁽¹⁾	3.75	--	6.55	30.62	--	52.91		
Orthophosphate (PO ₄ -P)	mg/L	0.08	--	0.16	3.18	--	4.07	Weekly	24-hr Composite
	lbs/day ⁽¹⁾	0.41	--	0.82	3.23	--	6.00		
Oil and Grease	mg/L	10	--	15	Not reported	--	Not reported	Annually	Discrete
	lbs/day ⁽¹⁾	50	--	75	Not reported	--	Not reported		

Parameter	Units	Previous (2008 – 2013) Permit Effluent Limitations			Discharge Monitoring Data			Previous (2008 – 2013) Monitoring Req.	
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly	Highest Average Weekly	Highest Maximum Daily	Monitoring Frequency	Sample Type
Whole Effluent Toxicity	TU _C	1.0	--	1.6	0.0 ⁽⁷⁾	--	0.0 ⁽⁷⁾	Annually	24-hr Composite
Heavy Metals ⁽⁴⁾	mg/L or ug/L	--	--	(5)	--	--	Not reported ⁽⁸⁾	1x/Permit Term	24-hr Composite
Hardness (CaCO ₃)	mg/L	--	--	(5)	--	--	Not reported ⁽⁸⁾	Annually	24-hr Composite
Pesticides ⁽⁶⁾	mg/L or ug/L	--	--	(5)	--	--	Not reported ⁽⁸⁾	1x/Permit Term	24-hr Composite
<i>Enterococci</i>	CFU/100 mL	--	--	(5)	--	--	Not reported ⁽⁸⁾	Weekly	Discrete

(1) Mass based limits calculated using 0.60 MGD design flow.

(2) Both the influent and the effluent shall be monitored. The arithmetic mean of the BOD and TSS values, by concentration, for effluent samples collected over a calendar month shall not exceed 15 percent of the arithmetic mean, by concentration, for influent samples collected at approximately the same times during the same period. The 30-day average percent removal shall not be less than 85 percent (i.e. $\geq 85\%$ BOD₅ removal and $\geq 85\%$ TSS removal).

(3) Total residual chlorine effluent limitation and effluent monitoring requirement were effective upon implementation of a disinfection system using chlorination. The permittee was required to notify EPA and Guam EPA at least 30 day prior to operation of a disinfection system. Currently, no chlorination occurs at the facility, and monitoring was not required.

(4) Heavy metals mean: As, Cd, Cr³⁺, Cr⁶⁺, Cu, Hg, Pb, Ni, Ag, and Zn; both total recoverable and dissolved metal concentrations shall be reported; monitoring of heavy metals is part of the Priority Toxic Pollutants Scan required to be conducted on the fourth year of the permit term.

(5) Monitoring only. No effluent limits in the previous permit.

(6) For a listing of all pesticides (i.e. organochlorines, organophosphates, carbamates, herbicides, fungicides, defoliants, and botanicals) see EPA Water Quality Criteria Blue Book; monitoring of pesticides is part of the Priority Toxic Pollutants Scan required to be conducted on the fourth year of the permit term.

(7) 7-day chronic toxicity static renewal test completed once during permit term (2012) with *Ceriodaphnia dubia*. The permittee did not report toxicity for the other years during the permit term.

(8) Although monitoring was required, the permittee did not report any values.

V. SIGNIFICANT CHANGES FROM PREVIOUS PERMIT TERM (2008 – 2013)

EPA is establishing an ammonia impact ratio (“AIR”) as the ammonia effluent limit. The permittee must monitor and report ammonia concentrations in addition to the AIR. The permittee is required to monitor quarterly. The AIR is calculated as the ratio of the ammonia concentration in the effluent to Guam’s ammonia water quality criteria specified section C.3, “Nutrients.” Using AIR is an accurate way to interpret GEPA’s WQS. The previous permit contained a specific, fixed value for concentration and mass-based ammonia effluent limits.

EPA is removing mass-based effluent limits for all pollutants except BOD₅ and TSS. Because of the facility’s low flows, mass-based limits are not needed as the permittee can’t dilute its effluent in order to meet the concentration-based limits. The concentration-based effluent limits will ensure treatment efficiency during low-flow periods and require proper operation of the treatment units at all times. Also, the concentration-based limits are consistent with the units expressed by the water quality standards criteria (i.e. concentration-based (mg/L)). EPA is establishing a flow limit in absence of the pollutant mass-based limits.

EPA is establishing an *Enterococci* effluent limit because of downstream impairments. Because of establishing *Enterococci*, EPA is removing the *E. coli* and fecal coliform limits that would have been effective upon operation of a disinfection system.¹ EPA also clarifies in the permit that the *Enterococci* effluent limit is effective immediately in order to protect water quality.

EPA is requiring the recently developed Test of Significant Toxicity (“TST”) statistical approach in assessing whole effluent toxicity (“WET”). The previous permit required WET testing with the traditional hypothesis testing approach outlined in EPA’s TSD. (EPA 1991).

EPA is establishing effluent monitoring requirements temperature and dissolved oxygen. Monitoring for temperature and dissolved oxygen will characterize the effluent and can be used in assessing compliance with narrative water quality criteria compliance for temperature and dissolved oxygen.

EPA is removing in-stream monitoring requirements for the receiving water, Togcha River, because the STP will be decommissioned during this permit term.

EPA is requiring that the permittee be required to report monitoring and sampling data electronically after 6 months of the effective date of the permit.

EPA is retaining the remaining conditions of the previous permit. However, certain permit conditions from the last permit term were not met, and therefore, the permittee must submit, update, or develop the following:

- Priority pollutant scan and oil and grease monitoring results;

¹ EPA notes that the previous permit did not clearly express that the fecal coliform limit would be effective upon implementation of a disinfection system as it was only discussed in the previous factsheet and not in the permit.

- Laboratory documents [submitted with the permittee's DMR, as required by permit section III.C.7.b, "Reporting of Toxicity Monitoring Results for Chronic Toxicity"];²
- Biosolids annual report to both EPA Region IX Biosolids Coordinator and GEPA by the deadlines specified in the permit;
- Updated, if applicable, the quality assurance manual as required by permit section I.D.4, "General Monitoring and Reporting;" and
- Updated, if applicable, the one or two-page Toxics Reduction Evaluation ("TRE") Workplan for chronic toxicity testing.

VI. DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS

EPA developed effluent limitations and monitoring requirements in the permit based on an evaluation of the technology used to treat the pollutant (e.g., "technology-based effluent limits") and the water quality standards applicable to the receiving water (e.g., "water quality-based effluent limits"). EPA established, in the permit, the most stringent of the applicable technology-based or water quality-based standards, as described below.

A. Applicable Technology-Based Effluent Limitations

EPA developed technology-based treatment standards for municipal wastewater treatment plants in accordance with Section 301(b)(1)(B) of the Clean Water Act. The minimum levels of effluent quality attainable by secondary treatment for BOD₅, TSS, and pH, as defined in 40 CFR 133.102, are below. Mass limits, as required by 40 CFR 122.45(f), are included for BOD₅ and TSS in the permit.

BOD₅

Concentration-based Limits

30-day average – 30 mg/L

7-day average – 45 mg/L

Removal Efficiency – minimum of 85%

Mass-based Limits

30-day average – (30 mg/L)(0.60 MGD)(8.345 conversion factor) = 150 lbs/day

7-day average – (45 mg/L)(0.60 MGD)(8.345 conversion factor) = 225 lbs/day

TSS

Concentration-based Limits

30-day average – 30 mg/L

7-day average – 45 mg/L

Removal efficiency – Minimum of 85%

Mass-based Limits

² The permittee is required to maintain records of monitoring information that includes but not limited to a summary of the results produced by the laboratory and any comments. However, these records do not need to be submitted to EPA in the permittee's DMR forms, except for WET testing results.

30-day average – (30 mg/L)(0.60 MGD)(8.345 conversion factor) = 150 lbs/day
7-day average – (45 mg/L)(0.60 MGD)(8.345 conversion factor) = 225 lbs/day

pH

Instantaneous Measurement: 6.0 – 9.0 standard units (S.U.)

The effluent limits for BOD₅ and TSS, as stated above, are retained in the permit. EPA is retaining the more protective water-quality based effluent limit for pH, in the permit, due to anti-backsliding provisions. See section VI. C, “Rationale for Numeric Effluent Limits and Monitoring” of this factsheet for further discussion.

B. Water Quality-Based Effluent Limitations

Water quality-based effluent limitations are required in NPDES permits when the permitting authority determines a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard. (40 CFR 122.44(d)(1)).

When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria, the permitting authority shall use procedures that account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity) and where appropriate, the dilution of the effluent in the receiving water (40 CFR 122.44(d)(1)(ii)).

EPA evaluated the reasonable potential to discharge toxic pollutants according to guidance provided in the *TSD* (EPA 1991) and the *NPDES Permit Writers Manual* (EPA 2010). These factors are listed below and subsequently discussed:

1. Applicable standards, designated uses, and impairments of receiving water
2. Dilution in the receiving water
3. Type of industry
4. History of compliance problems
5. Reasonable Potential Analysis (using data from previous permit term 2008 to 2013)

1. Applicable Standards, Designated Uses, and Impairments of Receiving Water

To protect the designated uses of waters of the U.S., GEPA adopted water quality standards for waterbodies depending on the level of protection required. The Togcha River is considered a category S-3, low quality surface water. (GEPA 2001). The WQS identify the protected uses for category S-3 surface waters to include the following:

- aesthetic enjoyment;
- commercial, agricultural, and industrial activities;
- limited body-contact recreation; and
- maintenance of aquatic life.

The Togcha River is not listed as impaired according to the CWA Section 303(d) list of water quality limited segments. However, a downstream waterbody, Talofofa Bay (and neighboring beaches), is impaired for *Enterococci* bacteria. *Enterococci* bacteria are common indicators in marine environments where *E. coli* bacteria are common indicators in freshwater environments. (EPA 2014).

2. Dilution in the Receiving Water

Discharges from Outfall 001 are to the Togcha River, and the permittee has not requested a mixing zone. Dilution is not allowed and therefore, not considered by EPA in the development of water quality-based effluent limits applicable to the discharge. All effluent limits will apply at the outfall.

3. Type of Industry

Typical pollutants of concern in untreated and treated domestic wastewater include ammonia-N, nitrate-N, oxygen demand, pathogens, temperature, pH, oil and grease, and solids. Turbidity may be of concern due to treatment plant operations.

4. History of Compliance Problems

Guam Waterworks Authority has been working on compliance at all its POTWs, including Baza Gardens STP. Pursuant to a court order dated November 10, 2011, GWA is required to complete an evaluation of the Baza Gardens STP facility and submit a plan by April 30, 2014 that identifies improvements needed to achieve compliance with the facility's NPDES permit. (See <http://www.epa.gov/region9/water/npdes/pdf/guam/gwa/gwa-order-for-prelim-relief2011.pdf>). EPA received this evaluation report, Baza Gardens Wastewater System Evaluation, and is currently reviewing it.

In the evaluation report, the contractor discusses the following options for bringing the facility into compliance: ocean discharge, soil aquifer treatment, subsurface disposal, water recycling, irrigation reuse/disposal, and transfer to another STP. As stated in the report, continued surface water discharges to Togcha River or evaporation are not viable options for the facility [long term]. The contractor recommends that Baza Gardens STP design and construct a transfer network to the Agat-Santa Rita STP. However, facility improvements at Baza Gardens STP will be necessary under this scenario and include upgrading the head works and constructing an equalization tank. (Lekven and Constantinescu 2014). Regardless of the option chosen, the permittee is required by the court order to complete facility improvements and adequately stabilize and dewater the facility's biosolids by April 30, 2018.

5. Reasonable Potential Analysis using Existing Data from Previous Permit Term (2008 to 2013)

For pollutants with effluent data available, EPA conducted a reasonable potential analysis based on statistical procedures outlined in the *TSD* (EPA 1991). These statistical procedures calculate the projected maximum effluent concentration based on available monitoring data to account for effluent variability and a limited data set. EPA estimated the projected maximum effluent concentrations assuming a coefficient of variation of 0.6 and a 95 % confidence interval

(EPA 1991). EPA calculated the projected maximum effluent concentration for each pollutant using the following equation:

$$\text{Projected maximum concentration} = C_e \times \text{reasonable potential multiplier factor.}$$

Where, “ C_e ” is the reported maximum effluent value, and the multiplier factor is obtained from Table 3-1 of the *TSD*. (EPA 1991).

Table 3. Reasonable Potential Statistical Analysis using Data from Previous Permit Term (2008 to 2013)

Parameter ⁽¹⁾	Maximum Observed Concentration	<i>n</i>	RP Multiplier ⁽²⁾	Projected Maximum Effluent Concentration	Most Stringent Water Quality Criterion	Statistical Reasonable Potential?
<i>E. Coli</i>	1,413,600 CFU/100 mL	> 20	1.4	1,979,040 CFU/100 mL	126 CFU/100 mL	Yes.
Nitrate-Nitrogen (NO ₃ -N)	4.58 mg/L	> 20	1.4	6.41 mg/L	0.50 mg/L	Yes.
Ammonia-Nitrogen (NH ₃ + NH ₄ -N)	32.8 mg/L ⁽³⁾	> 20	1.4	45.92 mg/L	1.46 mg/L ⁽³⁾	Yes.
Orthophosphate (PO ₄ -P)	4.07 mg/L	> 20	1.4	5.70 mg/L	0.10 mg/L	Yes.

- (1) Only parameters with Maximum Observed Concentration >0 were included in the RP analysis.
- (2) RP multiplier is based on 95 % probability using (*n*) and the coefficient of variation (CV). Because of data variability, EPA used a CV of 0.6 for all parameters.
- (3) The permittee provided a higher ammonia-N concentration on the application form (than reported on the DMR form). These values represent the highest reported value reported on the DMR form.
- (4) The ammonia water quality criterion was determined by using the highest reported pH (7.9 S.U). The WQS provides a sample table for acute and chronic ammonia criteria. The acute and chronic criteria at a pH of 7.9 are 1.46 and 10.14 mg N/L, respectively. The RP analysis uses the acute criteria (1.46 mg N/L) in order to be conservative. However, the reported value exceeds both the acute and chronic criteria. See additional rationale below and attachment E for ammonia-N.

In addition to using the TSD approach, the exceedances of the previous permit limits for each to these pollutants indicate the facility may cause or contribute to an excursion above GEPA’s water quality standards.³ The permittee should have monitored weekly for *Enterococci* and annually for oil and grease. Because data was not submitted for these parameters, the reasonable potential analysis is indeterminate. The permittee did not submit a priority pollutant scan and hardness values. The permittee also only submitted one WET results, indicating no chronic toxicity. The permittee was required to submit annual WET results.

³EPA Region IX finds that the permittee has a reasonable potential to exceed the receiving water quality standards for the Togcha River because it cannot be demonstrated with a high confidence level that the upper bound of the lognormal distribution of effluent concentration is below the receiving water criteria.

C. Rationale for Numeric Effluent Limits and Monitoring

EPA evaluated the typical pollutants expected to be present in the effluent and selected the most stringent of applicable technology-based or water quality-based effluent limitations. Where effluent concentrations of toxic parameters are unknown or are not reasonably expected to be discharged in concentration that have the reasonable potential to cause or contribute to water quality violations, EPA may establish monitoring requirements in the permit. Where monitoring is required, data will be re-evaluated, and the permit may be re-opened to incorporate effluent limitations as necessary. EPA's rationale for each effluent limit in the permit is below.

- **Flow:** EPA is establishing a flow effluent limit consistent with the design capacity of the facility. This flow limit is used in all mass-based concentration effluent limit calculations (i.e. BOD₅ and TSS).
- **Temperature:** EPA is requiring weekly monitoring. Because EPA is requiring temperature monitoring in the permit, EPA is remove receiving water temperature monitoring. The permittee reported 20.24°C for an average monthly temperature and 30.30°C for daily maximum.
- **pH:** Technology-based standards for POTWs require pH effluent limits between 6.0 and 9.0 S.U. The secondary treatment standards in GEPA WQS also require effluent values for pH to range from 6.0 to 9.0. However, the previous permit contained pH limits between 6.5 to 8.5 S.U. Based on effluent monitoring data, pH values ranged from 6.5 to 7.9 S.U. GEPA WQS for S-3 waters for pH is 6.5 to 9.0. EPA therefore finds that there is reasonable potential for the discharge to exceed the WQS and is retaining the previous limits. Retaining the pH effluent limit is also consistent with anti-backsliding provisions. The pH of the effluent shall be between 6.5 to 8.5 S.U.
- **BOD₅ and TSS:** The BOD₅ and TSS technology-based limits are described above, and the permit contains these limits. Under 40 CFR Section 122.45(f), mass limits are required for BOD₅ and TSS. Based on the design flow of 0.60 MGD, the mass-based limits are retained in the permit.

Section 5104 of GEPA's WQS provides secondary treatment requirements that describe the minimum level of effluent quality to be attained when secondary treatment is required for BOD₅ and TSS. The WQS specify concentration-based effluent limits that are the same as the technology-based concentration limits.

- **Enterococci:** The previous permit required monitoring, but the permittee did not submit any data. However, because the facility does not disinfect, bacteria levels in the effluent are higher than GEPA's WQS criteria. With high reported levels of *E. coli* and fecal coliform, *Enterococci* values are likely to exceed GEPA's WQS. The WQS lists *Enterococci* and *E. coli* as its primary indicators for microbiological quality in marine and freshwater, respectively. Because downstream stream waters and beaches are impaired for *Enterococci*, EPA is establishing an *Enterococci* effluent limit as opposed to

only monitoring requirements. To protect the beneficial uses of S-3 category waters, EPA is establishing effluent limits based directly on the water quality standards (i.e. concentrations of *Enterococci* shall be no greater than 33 CFU/100 mL based upon the geometric mean of 5 sequential samples taken over a 30 day period, nor shall any instantaneous reading exceed 108 CFU/100 mL).

- **Fecal coliform and *E. coli*:** EPA is removing fecal coliform and *E. coli* effluent limits that would be effective upon operation of a disinfection system. EPA notes that the previous permit did not clearly express that the fecal coliform limit would be effective only upon implementation of a disinfection system (as it was only discussed in the previous factsheet). Fecal coliform, *E. coli*, and *Enterococci* are used as indicators to estimate the presence of pathogens. The previous permit established effluent limits for *E. coli* and fecal coliform with monitoring requirements for *Enterococci*. In the previous permit, the fecal coliform effluent limits would apply upon operation of a disinfection system. Because of the potential to exceed GEPA WQS, the effluent limits for *Enterococci* shall be effective immediately upon issuance of the final permit.

Removing effluent limits for fecal coliform and *E. coli* is consistent with GEPA's WQS because the secondary treatment requirements allow for the appropriate GEPA microbiological indicator (such as *E. coli* and/or *Enterococci*) and/or fecal coliform values. EPA is establishing effluent limits for *Enterococci*.

- **Total Residual Chlorine:** The total residual chlorine effluent limit and monitoring requirement in the previous permit was effective upon implementation of a disinfection system using chlorination. The permittee was required to notify EPA and GEPA at least 30 days prior to operation of a disinfection system. Currently, the facility does not have the infrastructure necessary to disinfect its wastewater. Therefore, the discharge does not have reasonable potential to exceed water quality standards for chlorine.

Once the facility does begin to disinfect, the permittee will be required to meet applicable chlorine criteria in GEPA WQS. As such EPA is retaining the total residual chlorine effluent limits in the permit effective upon initiation of disinfection. EPA also requires only concentration-based effluent limits effective upon initiation of disinfection is removing mass-based effluent limits. See Attachment F for effluent limit calculations that will be effective upon disinfection.

- **Dissolved oxygen:** Monthly dissolved oxygen monitoring is required. Because EPA is requiring DO monitoring in the permit, EPA is remove receiving water DO monitoring. The permittee provided on the permit application that the maximum daily dissolved oxygen was 16.83 mg/L and 5.40 mg/L for an average monthly value. However, the permittee later corrected the maximum daily dissolved oxygen value to 6.83 mg/L.
- **Nitrate-N:** There is reasonable potential to impact the waterbody due to the high concentrations of nitrate-N reported in the facility's DMRs. EPA calculated concentration-based WQBELs of 0.82 mg/L and 0.41 mg/L for nitrate-nitrogen, as the maximum daily limit and the average monthly limit respectively. EPA is removing the mass-based maximum daily limit ("MDL") and average monthly limit (AML") of 4.1 and

2.1 lbs/day, respectively, which were in the previous permit. Mass-based effluent limits for nutrients are unnecessary due to the flow limit. Quarterly monitoring for nitrate-N (and all other nutrients) is required; however, the permittee may sample more frequently for nitrate-N in order to ensure compliance. The permittee should report any additional sampling results on the DMR. See Attachment F for effluent limit calculations.

- **Ammonia-N:** There is reasonable potential to impact the waterbody due to the high concentrations of ammonia-N reported in the facility's DMRs. EPA is establishing an ammonia-N effluent limit using the ammonia impact ratio ("AIR") and quarterly monitoring and reporting requirements for ammonia concentrations in the effluent. The permittee may sample more frequently for ammonia in order to ensure compliance. The permittee should report any additional sampling results on the DMR.

The AIR is calculated as the ratio of the ammonia value in the effluent and the applicable ammonia standard. The GEPA WQS contain ammonia criteria which are pH-dependent. Therefore, pH and ammonia sampling must be concurrent. EPA is using the water quality criterion from the chronic tables in section 5103(C)(3), "Nutrients," because the chronic criterion is more protective of water quality. See Attachment E for a sample log to help calculate and record the AIR values and attachment F for calculations for the chronic criterion.

An AIR value of one (1.0) is the enforceable effluent limit. The permittee also must monitor and report ammonia effluent values in addition to the AIR value. AIR provides more flexibility than a specific, fixed effluent concentration and is protective of water quality standards since the value (1.0) is set at the water quality standard. If the reported value exceeds 1.0, then the effluent ammonia-N concentration exceeded the ammonia water quality criterion. With an AIR value exceeding 1.0, the permittee would be in violation of the permit.

The permittee is required to report a maximum daily and average monthly ammonia (as N) concentration in addition to an average monthly AIR. These values may be the same if the permittee only collects one sample per quarter. The permittee may sample more frequently for ammonia in order to ensure compliance.

- **Orthophosphate:** There is statistical reasonable potential to impact the waterbody, and the effluent limits are retained in the permit. Section 5103(C)(3)(a) of the WQS provide that orthophosphate shall not exceed 0.10 mg/L (as P) in S-3 waters. EPA calculated WQBELs of 0.16 and 0.08 mg/L, as the MDL and AML, respectively.

EPA is removing the mass-based MDL and AML of 0.82 and 0.41 lbs/day, respectively that were in the previous permit. Mass-based effluent limits for orthophosphate are unnecessary due to the flow limit. See Attachment F for effluent limit calculations.

- **Oil and Grease:** EPA considers oil and grease to be a conventional pollutant pursuant to 304(a)(4) of the CWA and 40 CFR 401.16. The GEPA WQS indicates that waters shall not contain detectable as a visible film, or sheen of oil or petroleum. The permittee did not report oil and grease effluent data, and therefore, reasonable potential is indeterminate. Because of lack of data and anti-backsliding considerations, EPA is

retaining the effluent limitations of 15 mg/L maximum daily and 10 mg/L average monthly limit from the previous permit.

The effluent limits are EPA's interpretation of the narrative standard. Similar domestic wastewater treatment facilities have shown that a maximum daily limit of 15 mg/L and an average monthly limit of 10 mg/L can be easily achieved. Therefore, EPA retains effluent limits for oil and grease based on best professional judgment ("BPJ"), since there are no applicable guidelines and performance standards for oil and grease, no numeric values in GEPA's standards, and the existing permit limit is consistent with other POTW limits. In addition to these effluent limits, the narrative water quality-based limits for oil and grease, such as prohibiting visible sheen, are retained in the permit.

- **Whole-Effluent Toxicity:** WET testing is intended to demonstrate that the discharge is not toxic and prompt a response if toxicity is present. WET testing generally is required of all first-time permittees, and as needed thereafter. The permittee did not complete all required WET tests. Therefore, EPA is retaining the WET effluent limit. However, EPA is reducing the monitoring frequency, and the permit contains a one-time monitoring requirement (i.e. once per permit term, taken in the four year).

The WET testing is required in the permit to implement the narrative toxic standards. The permit includes new WET requirements based on EPA's 2010 Test of Significant Toxicity. The new method is based on comparing the mean response of the test organism in the control and at the instream waste concentration ("IWC"). The permit trigger in the permit is a "Fail" at 100 percent effluent, since no dilution is allowed. Depending on the WET test results, the permit also requires certain follow-up actions, such as additional WET tests and a toxicity reduction evaluation to identify and correct the cause of any observed toxicity, as indicated by a "Fail" result.

- **Metals and pesticides:** The permittee did not submit any data this permit term. However, the previous factsheet said, "Analytical data on heavy metals and pesticides submitted in 2007 indicated all analytes tested were below detection limits and therefore, were considered to have no reasonable potential to exceed water quality standards, except for chromium. Chromium also was found to have no reasonable potential for violating Guam water quality standards when assessed using statistical procedures consistent with the TSD (the reported value for chromium was 1.4 ug/L; when assessed using the default coefficient of variation of 0.6 and a sample size of 1, a reasonable potential multiplying factor of 6.2 yields a projected receiving water concentration of 8.7 ug/L, which is below the most stringent standard for hexavalent chromium of 11 ug/L)." EPA is not establishing effluent limits for metals or pesticides but will continue to require a priority pollutant scan in the fourth year of the permit term. This data must be submitted as part of the priority pollutant scan with the next permit application.

D. Anti-Backsliding

Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains effluent limits less stringent than those required in the previous permit, except as provided in the statute. Federal regulations, 40 CFR 122.44(l)(1), allow for backsliding in cases

where limits were not previously established appropriately or where new information is available to support a separate limit derivation.

The permit retains all applicable technology-based effluent limits. However, EPA establishes the ammonia and WET limit using a different methodology (i.e. TST approach and ammonia impact ratio). EPA also is requiring an ammonia impact ratio as opposed to a specific fixed value. EPA has used updated information to assure ammonia and WET effluent limitations are consistent with the intent of GEPA's WQS.

EPA is removing the fecal coliform and *E. coli* effluent limit and to establish *Enterococci* effluent limits because of downstream water quality impairments for *Enterococci*. The limits in the previous permit only applied if the permittee operated a disinfection system. Currently, the Baza STP does not have such a system in place. The GEPA WQS allow for *E. coli* and/or *Enterococci* to be used as indicators in microbiological analyses. If these indicators were not required, then EPA would need to retain fecal coliform limits. However, the permit contains new effluent limits for *Enterococci* that are based directly on the water quality criteria. Therefore, fecal coliform and *E. coli* effluent limits are not needed and are removed in the permit.

The permit removes mass-based limits for most pollutants (i.e. mass-based effluent limits for total residual chlorine (which was effective upon use of a disinfection system), orthophosphate, nitrate-N, ammonia-N, and oil and grease). Mass limitations are not needed when applicable standards and limitations are expressed in terms of other units of measurements, such as mg/L. In addition to retaining the concentration-based limits for these parameters, establishing a flow limit ensures equal stringency for these parameters. However, EPA is retaining the mass-based effluent limits for BOD₅ and TSS, pursuant to 40 CFR 122.45(f).

E. Antidegradation Policy

EPA's antidegradation policy at 40 CFR 131.12 and the GEPA WQS at Section 5101.B. specify existing water uses and the level of water quality necessary to protect these uses.

The permit contains effluent limits and monitoring requirements to ensure that all applicable water quality standards are met. The permit does not include a mixing zone, and therefore, all effluent limits will apply at the end-of-pipe without consideration of dilution in the receiving water. The permit also contains flow effluent limits that do not increase or decrease the volume of the discharge. Effluent limits *Enterococci* will ensure downstream waterbodies are not further impaired for bacteria.

In addition to permit requirements, EPA has an Administrative Order on Consent ("AOC") with the permittee. The AOC includes milestone deadlines for specific actions which both parties believe will help bring the facility into compliance with the Clean Water Act. The final deadline for full compliance is April 30, 2018. Due to these factors, EPA expects the quality of the effluent will match or exceed the current water quality and will have no negative, or *de minimis* negative effect, on the receiving waterbody.

VII. NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS

The GEPA WQS, Section 5103, contains narrative water quality standards applicable to the receiving water. EPA is retaining the narrative effluent limits in order to implement these water quality standards.

VIII. MONITORING AND REPORTING REQUIREMENTS

The permit requires the permittee to conduct monitoring for all pollutants or parameters with effluent limits, at the minimum frequency specified. Where effluent concentrations of toxic parameters are unknown or where data are insufficient to determine reasonable potential, monitoring may be required for pollutants or parameters where effluent limits have not been established by EPA. This data may be re-evaluated, and the permit re-opened to incorporate effluent limitations, if necessary.

A. Monitoring and Reporting for Effluent Limits

The permittee will be required to conduct effluent monitoring to evaluate compliance with the permit conditions. The permittee shall perform all monitoring, sampling, and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit. All monitoring data shall be reported on monthly DMR forms and submitted quarterly as specified in the permit.

EPA is changing the frequency of bacteria, nutrient, hardness, and WET monitoring. Bacteria monitoring will occur monthly, nutrient monitoring quarterly, and WET and hardness monitoring occur once per permit term, taken in the fourth year of permit coverage. The sample results from the WET and priority pollutant scan will inform the development of the next permit requirements. EPA is retaining the monitoring frequency for all other parameters – continuous for flow, weekly for the other conventional pollutants, once per permit term for priority pollutant scan monitoring.

Composite samples are required for BOD₅, TSS, WET, and for the priority pollutant scan in the permit. If the discharge is less than 24 hours, composite samples shall be taken at regular intervals for the duration of the discharge. Discrete, or grab, samples are required for pH, bacteria, total residual chlorine (as appropriate), nutrients, and oil and grease, in the permit. (40 CFR 136). Discrete samples are appropriate when a sample is needed to monitor a noncontinuous discharge and allow collection of a variable sample volume. Continuous metered monitoring of flow rate is retained in the permit.

B. Whole Effluent Toxicity Testing

The permit retains the WET test requirement and a trigger for increased monitoring if the test does not reject the null hypothesis. Chronic toxicity testing evaluates reduced growth/reproduction at 100 percent effluent concentration, since no dilution is allowed. The presence of chronic toxicity shall be determined as specified by the methods in the 40 CFR Part 136 as amended on November 19, 2002. The permittee shall conduct static renewal toxicity tests with the fathead minnow, *Pimephales promelas* (Larval Survival and Growth Test Method 1000.0); the daphnid, *Ceriodaphnia dubia* (Survival and Reproduction Test Method 1002.01); and the green alga, *Selenastrum capricornutum* (also named *Raphidocelis subcapitata*) (Growth Test Method 1003.0).

C. Priority Pollutant Scan

A priority toxic pollutants scan shall be conducted during the fourth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards.

The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit or by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

IX. SPECIAL CONDITIONS

A. Biosolids

Standard requirements for the monitoring, reporting, recordkeeping, and handling of biosolids, in accordance with 40 CFR Part 503, are contained in the permit. Part 503 regulations are self-implementing, which means that the facilities must comply with them whether or not a permit has been issued.

B. Development and Implementation of Best Management Practices

Pursuant to 40 CFR 122.44(k)(4), EPA may impose Best Management Practices (“BMPs”) which are “reasonably necessary...to carry out the purposes of the Act.” The permittee shall develop and implement BMPs designed to control site runoff, spillage or leaks, sludge or waste disposal, and drainage from collection system, storage/supply, and treatment/operational/process areas that may contribute pollutants to surface waters within 90 days from the effective date of this permit (section 304(e) of the CWA and 40 CFR 122.44(k)). BMPs shall include but are not limited to those necessary to control oil and grease and bacteria. Through the implementation of BMPs described in a BMP Plan, the permittee shall prevent or minimize the generation and discharge of wastes and pollutants from the facility to waters of the U.S. The BMP plan shall be located at the facility and be made available upon request by EPA and/or GEPA.

C. Development of an Initial Investigation Toxics Reduction Evaluation Workplan for Whole Effluent Toxicity

The permit requires the permittee to develop and implement a TRE Workplan. The Workplan would be followed if the effluent sample “fails” the toxicity test. Within 90 days of the permit effective date, the permittee shall prepare and submit an updated copy, if applicable, of its Initial Investigation TRE Workplan (1-2 pages) for chronic toxicity to EPA for review.

This plan shall include steps the permittee intends to follow if toxicity is measured above a chronic WET permit limit or trigger and should include, at minimum:

- A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.

- A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility.
- If a Toxicity Identification Evaluation (TIE) is necessary, an indication of who would conduct the TIEs (i.e., an in-house expert or outside contractor).

X. OTHER CONSIDERATIONS UNDER FEDERAL LAW

A. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat. Since the issuance of NPDES permits by the EPA is a federal action, consideration of the permitted discharge and its effect on any listed or candidate species or their critical habitat is appropriate.

To determine whether the discharge would affect any endangered or threatened species, EPA reviewed a list of species with habitats or known populations in Guam. (US FWS 2011). A discussion of each of these species is below.

Table 5. Listed species, designated under the U.S. Endangered Species Act for Guam (as of 4/9/2015).

Type	Common Name	Scientific Name	Status	Critical Habitat Designated
<i>National Marine Fisheries Service</i>				
Fish	Scalloped hammerhead shark, Indo-West Pacific	<i>Sphyrna lewini</i>	Threatened (T)	
Mammals	Blue whale	<i>Balaenoptera musculus</i>	Endangered (E)	
	Fin whale	<i>Balaenoptera physalus</i>	E	
	Sperm whale	<i>Physeter catodon</i>	E	
	Humpback whale	<i>Megaptera novaeangliae</i>	E	
	Dugong ²	<i>Dugong dugon</i>	E	
	Sei Whale	<i>Balaenoptera borealis</i>	E	
Sea Turtles ²	Olive ridley sea turtle	<i>Lepidochelys olivacea</i>	T	
	Leatherback turtle	<i>Dermochelys coriacea</i>	E	
	Green Sea turtle	<i>Chelonia mydas (incl. agassizi)</i>	T	
	Loggerhead turtle, North Pacific	<i>Caretta caretta</i>	T	
	Hawksbill turtle	<i>Eretmochelys imbricate</i>	E	
Corals		<i>Seriatopora aculeata</i>	T	
		<i>Acropora globiceps</i>	T	
		<i>Acropora retusa</i>	T	
<i>U.S. Fish and Wildlife Service Species Associated with Ocean Habitats</i>				
Mammals	Little Mariana Fruit Bat	<i>Pteropus tokudae</i>	E	Guam

	Mariana Fruit Bat	<i>Pteropus mariannus mariannus</i>	T	Guam
Birds	Mariana Swiftlift	<i>Aerodramus bartschi</i>	E	
	Mariana Crow	<i>Corvus kubaryi</i>	E	Guam
	Mariana Common Moorhen	<i>Gallinula chloropus guami</i>	E	
	Guam Micronesian Kingfisher	<i>Halcyon cinnamominus cinnamominus</i>	E	Guam
	Micronesian Megapode	<i>Megapodius laperouse</i>	E	
	Guam Rail	<i>Rallus owstoni</i>	E	
	Guam Bridled White-eye	<i>Zosterops conspicillatus conspicillatus</i>	E	
Plants	Hayun lagu	<i>Serianthes nelsonii</i>	E	

Source: NOAA 2015 and US FWS [Environmental Conservation Online System](#).

¹ Critical habitat is defined as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation.

² The species is also under the jurisdiction of the U.S. FWS.

Fish: Scalloped Hammerhead Shark (Indo-West Pacific DPS)

The scalloped hammerhead shark is found worldwide, residing in coastal warm temperature and tropical seas. Scalloped hammerhead sharks are highly mobile and partly migratory and are likely the most abundant of the hammerhead species. In the Indo-West Pacific DPS, overutilization by industrial/commercial and artisanal fisheries, as well as IUU fishing and the high at-vessel mortality of the sharks were ranked as high risks, with habitat degradation, inadequacy of current regulatory mechanisms, and schooling behavior ranked as moderate risks. The facility's small discharge, less than 0.6 mgd average monthly, 2 miles upstream of the Pacific Ocean will not effect the scalloped hammerhead shark. NMFS 2013b.

Mammals: Whales and Bats

All the listed whales are endangered. No critical habitat rules have been published. However, the humpback whale is proposed to be delisted. 78 FR 53391. Humpback whales feed in cold, productive coastal waters and when migrating, stay near the surface of the ocean. Blue and fin whales are the largest of the species and are thought to occur more offshore than humpback whales. Sperm whales spend most of their time in deep waters (1968 feet deep) and are uncommon in water less than 984 feet deep. Sei whales are usually observed in deeper waters of oceanic areas far from the coastline. The North Pacific right whale is the rarest of all large whale species, and among the rarest of all marine mammal species. Because of their rare occurrence and scattered distribution, assessing threats to the North Pacific right whale is nearly impossible. However, as with all whale species, ship strikes, harassment, habitat impacts, and entanglement are possible threats. NMFS 2013. Because the discharge is to an inland water, approximately 2 miles upstream of the ocean, and because the listed whales described in Table 5, generally spend more time in deep waters, the discharge will not effect the listed whale species.

The Little Mariana Fruit Bat (*Pteropus tokudae*) and the Mariana Fruit Bat (*Pteropus mariannus mariannus*) are listed as endangered and threatened, respectively, due to habitat lost/degradation, over hunting, predation by the brown treesnake, and natural disturbances. On islands inhabited by humans, bat colonies usually occur in remote sites, especially near or along clifflines. The Mariana Fruit Bat is known to forage on military lands and at the Guam National Wildlife Refuge, which are miles away from this facility's discharge. The facility is not located in an area designated as critical habitat for the Mariana Fruit Bat. (US FWS 2009; US FWS 2012). The facility's discharge will not effect the bats' food, habitat, or the bat itself.

Sea Turtles

The facility discharges to the Togcha River via the Togcha River Exfiltration Trench. See attachment D, Description of the Togcha River Monitoring Program, for a map of discharge points and receiving waters. The Togcha River then follows a two-mile course before flowing into the Pacific Ocean. The facility's small discharge, less than 0.6 mgd average monthly, will not effect the listed turtles in Table 5.

Corals

The *Seriatopora aculeate*, *Acropora globiceps*, and *Acropora retusa* has been reported from Guam. *Seriatopora aculeate* occurs in a broad range of habitats on the reef slope and back-reef, including but not limited to upper reef slopes, mid-slope terraces, lower reef slopes, reef flats, and lagoons in a depth range to 3 to 40 meters. *Acropora globiceps* occurs on upper reef slopes, reef flats, and adjacent habitats in depths ranging from 0 to 8 meters. *Acropora retusa* occurs in shallow reef slope and back-reef areas, such as upper reef slopes, reef flats, and shallow lagoons, and its depth range is 0 to 5 meters. *Acropora retusa* is also characterized as rare where it is found. *Acropora retusa* is also characterized as rare where it is found.

Corals, in general, are susceptible to the three major threats: ocean warming, disease, and ocean acidification. Corals that occur in shallow reef areas, such as the *Acropora retusa* and the possibly the *Acropora globiceps*, are subjected to frequent changes in environmental conditions, extremes, high irradiance, and simultaneous effects from multiple stressors, both local and global in nature. Because the discharge is to an inland water, approximately 2 miles upstream of the Pacific Ocean, the discharge will not effect the listed species described in Table 5.

Birds: Seven Endemic Bird Species

The U.S. FWS lists as threatened or endangered seven bird species: 1) Mariana Swiftlet (*Aerodramus bartschi*); 2) Mariana Crow (*Corvus kubaryi*); 3) Mariana Common Moorhen (*Gallinula chloropus guami*); 4) Guam Micronesian Megapode (*Megapodius laperouse*); 5) Guam Rail (*Rallus owstoni*); 6) Guam Bridled White-eye (*Zosterops conspicillatus conspicillatus*); and Guam Micronesian Kingfisher (*Halcyon cinnamominus cinnammominus*). Many endemic birds, especially flightless birds like the Guam Rail, are listed as threatened or endangered due to predation by the brown treesnake or predation by other animals such as lizards, rats, and feral cats. The Kingfisher was listed as endangered solely from the predation by the brown treesnake and there are no known populations on Guam.

Many of these seven bird species are known to occur in the northern part of the island, miles away from the facilities discharge. Specifically, the Mariana Swiftlet populations are known to occur in 3 locations on Guam, in natural and manmade caves. The Mariana Crow is known to occur in the northern cliffline forests as well as the Guam bridled white-eye bird.

Similar to the Mariana fruit bat, the Guam Micronesian kingfisher has critical habitat on the northern part of Guam. The Mariana Crow critical habitat also occurs in the northern tip of Guam (by Ritidian Point). Baza gardens is on the southern part of Guam and is not located within the critical habitat area for these species.

The Mariana Common Moorhen are found primarily at natural and manmade wetlands and feed on a variety of plant and animal matter located in and around the wetlands. The nearest wetland that could potentially support the species is Talfoko floodplain. The most serious threat to the Marian Common Moorhen is the disappearance of suitable wetland habitat. (US FWS 1991). The facility and its discharge will not effect the existence of any natural or manmade wetlands.

The Micronesian Megapode is listed as endangered. No populations are known to exist on Guam. Current threats to megapodes in the Pacific islands include habitat destruction by feral ungulates and commercial/residential development; competition with introduced species; and predation by lizards, cats, rats, pigs, dogs, and the brown treesnake. (US FWS 1998). The discharge will not effect the Micronesian Megapode.

Plants: Hayun Iagu

Only one mature tree on Guam is known to exist and is endangered primarily by the browsing of introduced ungulates and infestations of herbivorous insects. The tree is not in the discharge area. The facility's discharge will not effect the Hayun Iagu (*Serianthes nelsonii*). (US FWS 1993).

In addition to the discussion above, the permittee is considered a minor discharger that discharges less than 0.6 MGD into the Togcha River, approximately 2 miles upstream of the Pacific Ocean. There are no known industrial discharges to the treatment plant. This permit incorporates effluent limits and narrative conditions to ensure that the discharge meets GEPA WQS, without any mixing zones. All effluent limits will apply at end of pipe.

EPA drafted this permit to protect the beneficial uses of the river, which include propagation and preservation of aquatic wildlife. Therefore, EPA believes that the permit conditions will not effect the availability or distribution of prey species or produce undesirable aquatic life within the Togcha River that may directly impact threatened or endangered species. In consideration of the factors stated above, EPA believes that a NO EFFECT determination is appropriate for the above listed endangered or threatened species in Guam. EPA provided the U.S. Fish and Wildlife Service with a copy of this factsheet and the permit for review.

B. Impact to Coastal Zones

The Coastal Zone Management Act (CZMA) requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification.

At this time, EPA has not received a consistency certification from the Guam Department of Commerce for the Baza Gardens STP discharge. At the time the certification is received, EPA will review the certification and will make any necessary modification to the permit to ensure compliance with the Guam Coastal Management Plan.

C. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (MSA) set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat (EFH).

The permit contains technology-based effluent limits and numerical and narrative water quality-based effluent limits as necessary for the protection of applicable aquatic life uses. The permit does not directly discharge to areas of essential fish habitat. Therefore, EPA is not required to make a determination on whether this action may adversely impact Essential Fish Habitat, as defined under the MSA.

D. Impact to National Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect of their undertakings on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. Pursuant to the NHPA and 36 CFR §800.3(a)(1), EPA is making a determination that issuing this NPDES permit does not have the potential to affect any historic properties or cultural properties. As a result, Section 106 does not require EPA to undertake additional consulting on this permit reissuance.

XI. STANDARD CONDITIONS

A. Reopener Provision

In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

B. Standard Provisions

The permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions, dated July 1, 2001.

XII. ADMINISTRATIVE INFORMATION

A. Public Notice (40 CFR 124.10)

The public notice is the vehicle for informing all interested parties and members of the general public of the contents of a NPDES permit or other significant action with respect to an NPDES permit or application.

B. Public Comment Period (40 CFR 124.10)

Notice of the draft permit will be placed in a daily or weekly newspaper within the area affected by the facility or activity, with a minimum of 30 days provided for interested parties to respond in writing to EPA. After the closing of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued.

C. Public Hearing (40 CFR 124.12(c))

A public hearing may be requested in writing by any interested party. The request should state the nature of the issues proposed to be raised during the hearing. A public hearing will be held if EPA determines there is a significant amount of interest expressed during the 30-day public comment period or when it is necessary to clarify the issues involved in the permit decision.

D. Water Quality Certification Requirements (40 CFR 124.53 and 124.54)

The GEPA has approved water quality standards. EPA is requesting certification from the GEPA that the permit will meet all applicable water quality standards. Certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law.

XIII. CONTACT INFORMATION

Comments, submittals, and additional information relating to this proposal may be directed to:

EPA Region IX
Attn: Becky Mitschele
75 Hawthorne Street (WTR 2-3)
San Francisco, California 94105

or

Becky Mitschele
mitschele.becky@epa.gov
(415) 972 – 3492

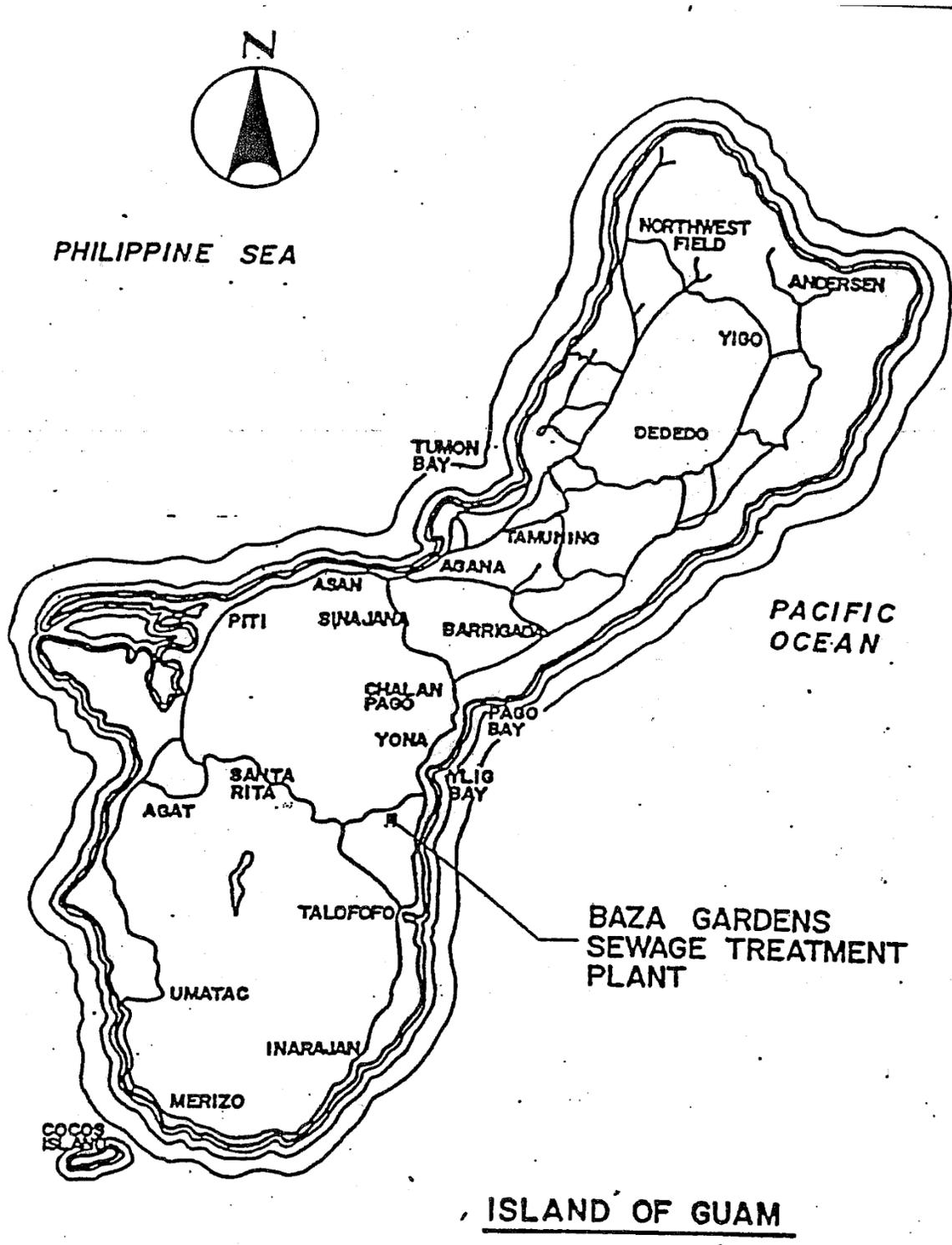
XIV. REFERENCES

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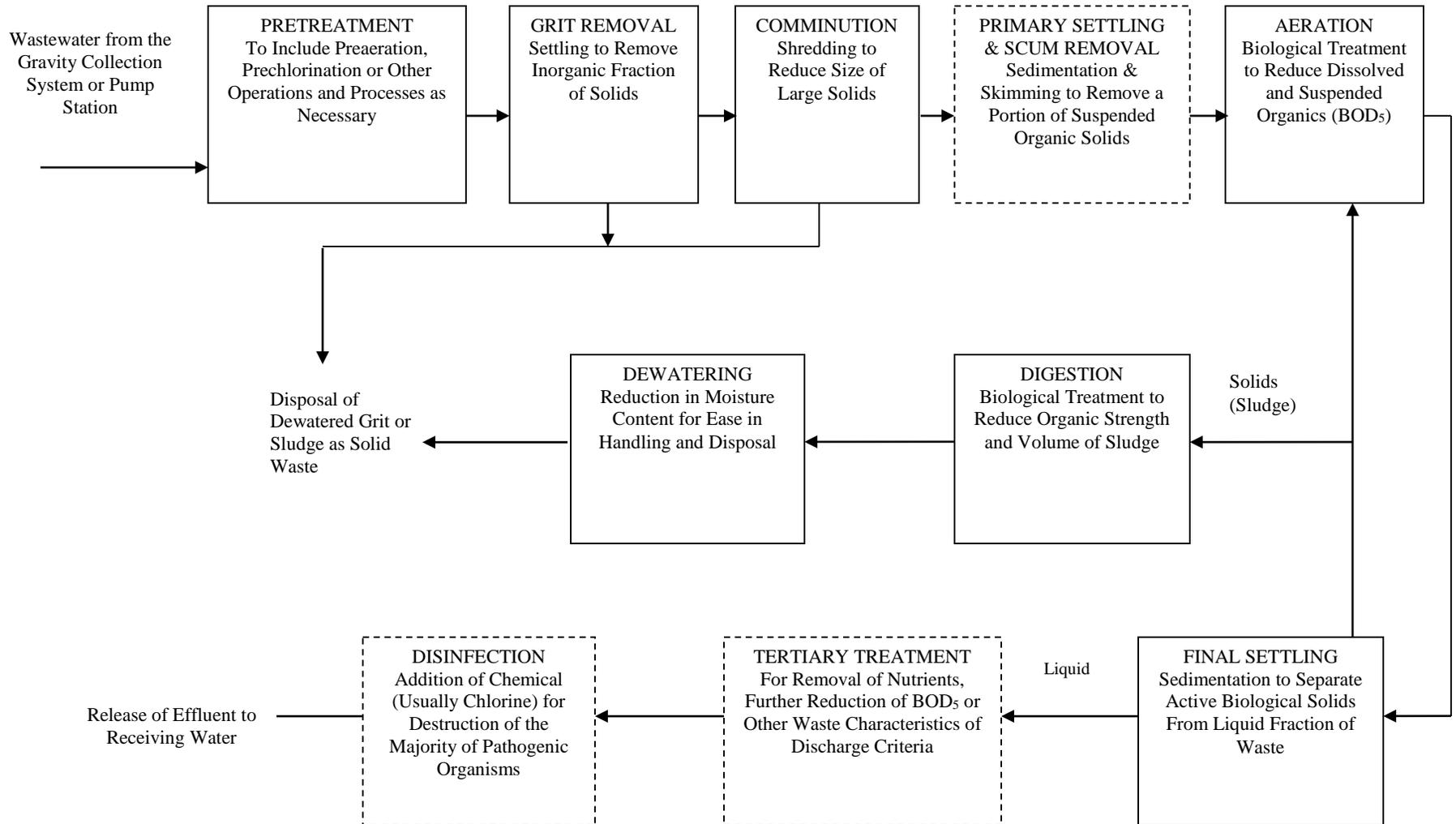
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ATTACHMENT A. Location of Baza Gardens STP on Guam

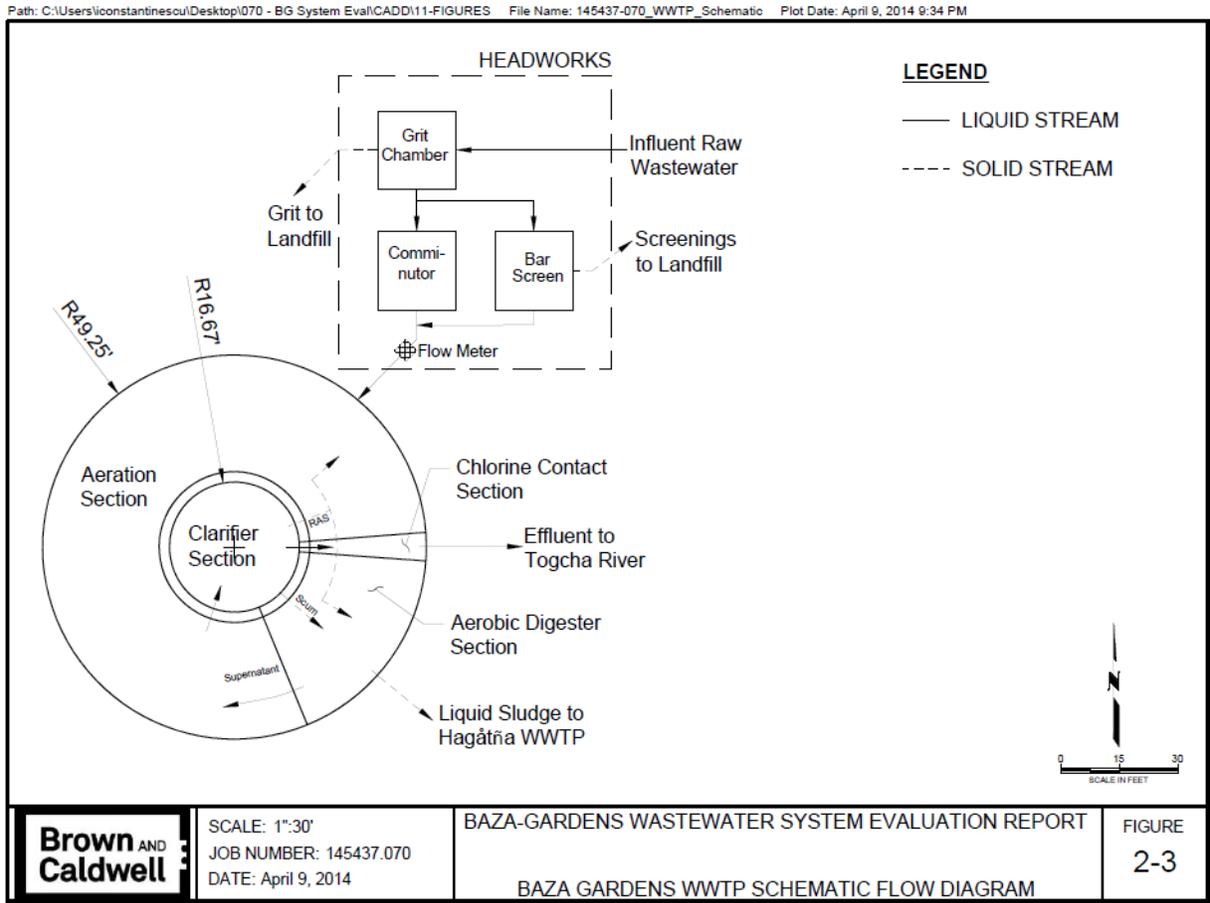


Attachement B. Diagram of the Wastewater Treatment Process at Baza Gardens STP



Note: Those operations and processes that comprise the Baza Gardens plant are identified in solid lines.

ATTACHMENT C. Wastewater Flow Diagram for the Baza Gardens STP.



ATTACHMENT D. (cont.) Guam Environmental Protection Agency Water Quality Standards, Section “3. Nutrients”

c. Ammonia nitrogen per liter limits vary with pH:

i. The one (1) hour average concentration of total ammonia nitrogen (mg N/l) does not exceed, more than once every three (3) years on the average, the Criteria Maximum Concentration (“CMC”) (see Section 5105 Definitions) calculated using the following equation:

$$CMC = \frac{0.411}{1 + 10^{(7.204 - pH)}} + \frac{58.4}{1 + 10^{(9.61 - 7.204)}}$$

ii. The thirty-(30) day average concentration of total ammonia nitrogen (mg N/l) does not exceed, more than once every three (3) years on the average, the Criteria Chronic Concentration (“CCC”) (see Section 5105 Definitions) calculated using the following equation:

$$CCC = \frac{0.0858}{1 + 10^{(7.204 - pH)}} + \frac{3.70}{1 + 10^{(9.61 - 7.204)}}$$

iii. CMC and CCC (mg N/l) at a few example pH Values.

pH	CMC	CCC
6.5	48.8	3.48
7.0	36.1	3.08
7.5	19.9	2.28
8.0	8.40	1.27
8.5	3.20	0.57
9.0	1.32	0.25

iv. The ambient concentration, averaged over a period of thirty (30) days, should not exceed the CCC. The ambient concentration, averaged over four (4) days, should not exceed a concentration two (2) times greater than the CCC. The averaging period applicable to the CMC is one (1) hour.

S-1, S-2, S-3

pH	Ammonia Criterion (mg N/L)	pH	Ammonia Criterion (mg N/L)
6.5	3.48	7.8	1.66
6.6	3.43	7.9	1.46
6.7	3.36	8.0	1.27
6.8	3.29	8.1	1.09
6.9	3.19	8.2	0.94
7.0	3.08	8.3	0.80
7.1	2.96	8.4	0.67
7.2	2.81	8.5	0.57
7.3	2.65	8.6	0.48
7.4	2.47	8.7	0.41
7.5	2.28	8.8	0.35
7.6	2.08	8.9	0.29
7.7	1.87	9.0	0.25

ATTACHMENT E. WQBEL Calculations for Total Residual Chlorine and Nutrients

Total Chlorine Residual using Two-value, Steady-state Model	Acute	Chronic
Freshwater Aquatic Life Criteria, ug/L ⁽¹⁾	19	11
No Dilution Credit Authorized	0	0
Background Concentration, ug/L	0	0
WLA, ug/L	19	11
Coefficient of Variation	0.6	0.6
WLA Multiplier (99 th %)	0.321	0.527
LTA, ug/L	6.099	5.797
LTA _{MDL} Multiplier (99 th %)	--	3.11
MDL, ug/L ³	--	18
LTA _{AML} Multiplier (95 th %) ⁽²⁾	--	1.55
AML, ug/L ⁽³⁾	--	9

⁽¹⁾ EPA's National Recommended Water Quality Criteria for non-priority pollutants for chlorine in freshwater is a CMC of 19 ug/l and a CCC of 11 ug/l. GEPA WQS Table IV includes fresh water maximum numerical limits at 0.011 mg/L, which is consistent with EPA's National Recommended Water Quality Criteria. EPA uses the criteria from the national recommendation in order to use the two-value, steady-state model to calculate effluent limits.

² LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD.

³ Baza Gardens STP does not currently have the infrastructure necessary to disinfect using chlorine but may have the capability to do so during the permit term. Therefore, EPA is retaining the previous effluent limits for total residual chlorine, which will only become effective upon operation of a chlorination/dechlorination system.

Orthophosphate using Single, Steady-state Model	Chronic⁽¹⁾
Water Quality Criterion, mg/L	0.10
No Dilution Credit Authorized	0
Background Concentration, mg/L	0
WLA, mg/L	0.10
WLA Multiplier (99 th %)	0.527
LTA, mg/L	0.0527
LTA _{MDL} Multiplier (99 th %)	3.11
MDL, mg/L	0.16
LTA _{AML} Multiplier (95 th %) ⁽²⁾	1.55
AML, mg/L	0.08

⁽¹⁾ Derivation of permit limit based on Section 5.4.1 of EPA's TSD.

⁽²⁾ LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD (in situations where monitoring frequency is once per month or less, a higher value of n must be assumed for AML derivation purposes...using an assumed number of samples of at least four).

ATTACHMENT E. (cont.) WQBEL Calculations for Total Residual Chlorine and Nutrients

Nitrate-nitrogen using Single, Steady-state Model	Chronic⁽¹⁾
Water Quality Criterion, mg/L	0.50
No Dilution Credit Authorized	0.00
Background Concentration, mg/L	0.00
WLA, mg/L	0.50
WLA Multiplier (99 th %)	0.527
LTA, mg/L	0.2635
LTA _{MDL} Multiplier (99 th %)	3.11
MDL, mg/L	0.82
LTA _{AML} Multiplier (95 th %) ⁽²⁾	1.55
AML, mg/L	0.41

⁽¹⁾Derivation of permit limit based on Section 5.4.1 of EPA's TSD.

⁽²⁾LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD (in situations where monitoring frequency is once per month or less, a higher value of n must be assumed for AML derivation purposes...using an assumed number of samples of at least four).

Ammonia Nitrogen using Two-value, Steady-state Model	Acute	Chronic
Freshwater Aquatic Life Criteria, mg/L	9.98 ⁽²⁾	1.46 ⁽²⁾
No Dilution Credit Authorized	0.00	0.00
Background Concentration, mg/L	0.00	0.00
WLA, mg/L	9.98	1.46
WLA Multiplier (99 th %)	0.321	0.527
LTA, mg/L	3.204	0.769
LTA _{MDL} Multiplier (99 th %)	--	3.11
MDL, mg/L	--	2.39 ⁽³⁾
LTA _{AML} Multiplier (95 th %) ⁽¹⁾	--	1.55 ⁽¹⁾
AML, mg/L	--	1.19 ⁽³⁾

⁽¹⁾LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD (in situations where monitoring frequency is once per month or less, a higher value of n must be assumed for AML derivation purposes...using an assumed number of samples of at least four).

⁽²⁾EPA calculated the applicable criteria, 9.98 and 1.46 mg N/L, based on a pH of 7.9 S.U. using the following formulas in the GEPA's WQS:

$$\text{CMC (mg N/l)} = \{ 0.4110 / [1 + 10^{(7.204 - \text{pH})}] \} + \{ 58.4 / [1 + 10^{(\text{pH} - 7.204)}] \} = 9.98$$

$$\text{CCC (mg N/l)} = \{ 0.0858 / [1 + 10^{(7.688 - \text{pH})}] \} + \{ 3.70 / [1 + 10^{(\text{pH} - 7.688)}] \} = 1.46$$

⁽³⁾ EPA will use an ammonia impact ratio ("AIR") with a value of (1) to determine compliance instead of these fixed effluent limits. The AIR is calculated as the ratio of the ammonia value in the effluent and the applicable ammonia standard.