

**NPDES PERMIT NO. PR0024678**

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

In compliance with the provisions of the Clean Water Act, as amended, 33 U.S.C. • 1251 et. seq. (the "Act"),

Puerto Rico Aqueduct and Sewer Authority  
P.O. Box 7066  
Barrio Obrero Station  
San Juan, Puerto Rico 00916

hereinafter referred to as "the permittee" is authorized to discharge from a facility named **Jagua Pasto Water Treatment Plant** located at:

State Road No. 378, Km. 7.5  
Guayanilla, Puerto Rico 00656

to receiving waters named:

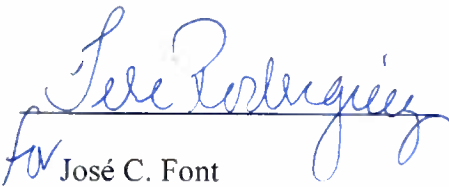
**Guayanilla River**

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof. All references to Title 40 of the Code of Federal Regulations are to regulations that are in effect on the effective date of this permit, including all amendments thereto published in the Federal Register. Unless otherwise specified herein, all terms are defined as provided in the applicable regulations under Title 40 of the Code of Federal Regulations.

This permit shall become effective on **April 1, 2013**, which is the Effective Date of the Permit (EDP).

This permit and the authorization to discharge shall expire at midnight, **March 31, 2018**.

Signed this 20<sup>th</sup> day of December, 2012.

  
for José C. Font  
Acting Director  
Caribbean Environmental  
Protection Division

**TABLE A-1 EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

During the period beginning on the EDP and lasting through the expiration date of the permit, the permittee is authorized to discharge from outfall serial number 001 (filters and settling tanks washwater). Such discharge shall be limited and monitored by the permittee as specified below:

Receiving Water Classification: SD

| <u>Effluent Characteristics</u>  | <u>Gross Discharge Limitations</u>   |                | <u>Monitoring Requirements</u>    |             |
|--|--|----------------|-----------------------------------|-------------|
|  | Monthly Avg.   | Daily Max      | Measurements Frequency            | Sample Type |
| Arsenic (As) ( $\mu\text{g/L}$ ) <sup>2,3</sup>                                      |  | 10             | Monthly                           | Grab        |
| BOD <sub>5</sub> (mg/L) $\alpha$ <sup>1,2,3,4</sup>                                  |  | 10.0           | Monthly                           | Grab        |
| Color (Pt-Co Units) <sup>2,3</sup>   |  | 15             | Monthly                           | Grab        |
| Copper (Cu) ( $\mu\text{g/L}$ ) <sup>2,3</sup>                                       |  | 14             | Monthly                           | Grab        |
| Dissolved Oxygen (mg/L) <sup>1,2,3</sup>   | Shall contain not less than 5.0 mg/L.  |                | Daily                             | Grab        |
| Flow m <sup>3</sup> /day (MGD)<br>$\beta$ <sup>1,3,5</sup>                           |  | 276.33 (0.073) | Continuous Recording or Estimated |             |
| Lead (Pb) ( $\mu\text{g/L}$ ) $\alpha$ <sup>2,3,4</sup>                              |  | 13.2           | Monthly                           | Grab        |
| pH (SU) <sup>2,3</sup>   | Shall always lie between 6.0 – 9.0.  |                | Daily                             | Grab        |
| Residual Chlorine (mg/L) $\gamma$ <sup>2,3</sup>                                     |  | 0.50           | Daily                             | Grab        |
| Solids and Other Matters <sup>2</sup>  | The waters of Puerto Rico shall not contain floating debris, scum or other floating materials attributable to discharge in amounts sufficient to be unsightly or deleterious to the existing or designed uses of the water body. |                | ---                               | ---         |
| Sulfide (Undissociated H <sub>2</sub> S) ( $\mu\text{g/L}$ ) $\delta$ <sup>2,3</sup> |  | 2              | Monthly                           | Grab        |

| <u>Effluent Characteristics</u>                                   | <u>Gross Discharge Limitations</u>   |           | <u>Monitoring Requirements</u> |             |
|---|--|-----------|--------------------------------|-------------|
|   | Monthly Avg.   | Daily Max | Measurements Frequency         | Sample Type |
| Suspended, Colloidal or Settleable Solids (mL/L) <sup>1,2,3</sup> | Solids from wastewaters source shall not cause deposition in, or be deleterious to the existing or designated uses of the waters.                    |           | Daily                          | Grab        |
| Taste and Odor-producing Substances <sup>2,3</sup>                | Shall not be present in amounts that will render any undesirable taste and/or to edible aquatic life.  |           | ---                            | ---         |
| Temperature °F (°C) <sup>2,3</sup>                                | Except for natural causes no heat may be added to the waters of Puerto Rico, which would cause the temperature of any site to exceed 90 °F (32.2°C). |           | Daily                          | Grab        |
| Total Ammonia (mg/l) <sup>2,3,4</sup>                             |  | 1.000     | Monthly                        | Grab        |
| Total Phosphorus (mg/L) <sup>2,3</sup>                            |  | 1.00      | Φ                              | Grab        |
| Turbidity (NTU) α <sup>2,3,4</sup>                                |  | 200       | Monthly                        | Grab        |
| Special Conditions  | See attached sheet, which contains special conditions that constitute part of this certification.  |           | ---                            | ---         |

1, 2, 3, 4, 5 and 6 see page 12.

To comply with the monitoring requirements specified above, samples shall be taken at the outfall of discharge serial number 001.

All flow measurements shall achieve accuracy within the range of plus or minus 10%.

α Waste Load Allocation (WLA) was performed in order to develop the water quality based effluent limitations.

γ See Special Conditions 6 and 7.

δ See Special Condition 10.

β See Special Condition 11.

- Φ The permittee shall implement a monthly monitoring program using the analytical method approved by EPA with the lowest possible detection level, in accordance with Rule 1306.2 (C) of the PRWQSR as amended, for one (1) year period, after which they will be conducted annually. The monitoring program shall commence no later than thirty (30) days after the EDP. The results of the monitoring program shall be submitted to EQB and EPA-Region 2 no later than sixty (60) days of completion of the one year monitoring program. Based on the evaluation of the results obtained, EQB will determine if more frequent monitoring is necessary for this parameter. In such case the WQC will be reopened to revise the monitoring frequency.

**TABLE A-2 WASTE LOAD ALLOCATION (WLA) MONITORING REQUIREMENTES**

The EQB has performed a WLA pursuant to Rule 1310 of the PRWQSR. During the period beginning on EDP + 60 days and lasting through one (1) year, after which the monitoring shall be conducted annually, the permittee shall perform ambient monitoring at the immediate vicinity<sup>Φ</sup> of the discharge station and at the background<sup>Ψ</sup> monitoring station as specified below. Within thirty (30) days of completion of the one year monitoring period, the permittee shall submit a report to EQB and EPA containing the ambient monitoring results obtained as well as the monthly monitoring results obtained during the same time period at the sampling point for discharge 001 for the below parameters. Based on the evaluation of the results obtained, EQB shall determine if the effluent limitations established shall remain as they are or if it is necessary to re-open the WQC to modify (increase or decrease) the effluent limitation for one (1) or more of the below parameters.

Receiving Water Name and Classification: Guayanilla River, SD

| <u>Parameters</u>           | <u>Monitoring Requirements</u> |             |
|-----------------------------|--------------------------------|-------------|
|                             | Measurements Frequency         | Sample Type |
| Hardness (as CaCO3) (mg/l)* | Monthly                        | Grab        |
| Lead (Pb) ((µg/l) 2,3,4     | Monthly                        | Grab        |
| Turbidity (NTU) 2,3,4       | Monthly                        | Grab        |

Notes

Φ The immediate vicinity of the discharge station shall be located twelve (12) meters downstream from discharge 001.

Ψ The background sampling station shall be located five (5) meters upstream from discharge 001.

\* Monitoring is only required at the background sampling station.

2, 3 and 4 see page 12 of the Special Conditions

**TABLE A-3 MULSMP MODEL CALIBRATION MONITORING REQUIREMENTS**

During the period beginning within EDP + 60 days and lasting through one year, the permittee shall implement a monitoring program to obtain the necessary data required to calibrate the MULSMP mathematical model as specified below. Sampling for all parameters shall be performed on the same day. Within thirty (30) days of complementation of the one year monitoring program, the permittee shall submit a report to EQB and EPA containing the results obtained as well as the monthly monitoring results obtaining during the same time period at the sampling point for discharge 001 for the below parameters.

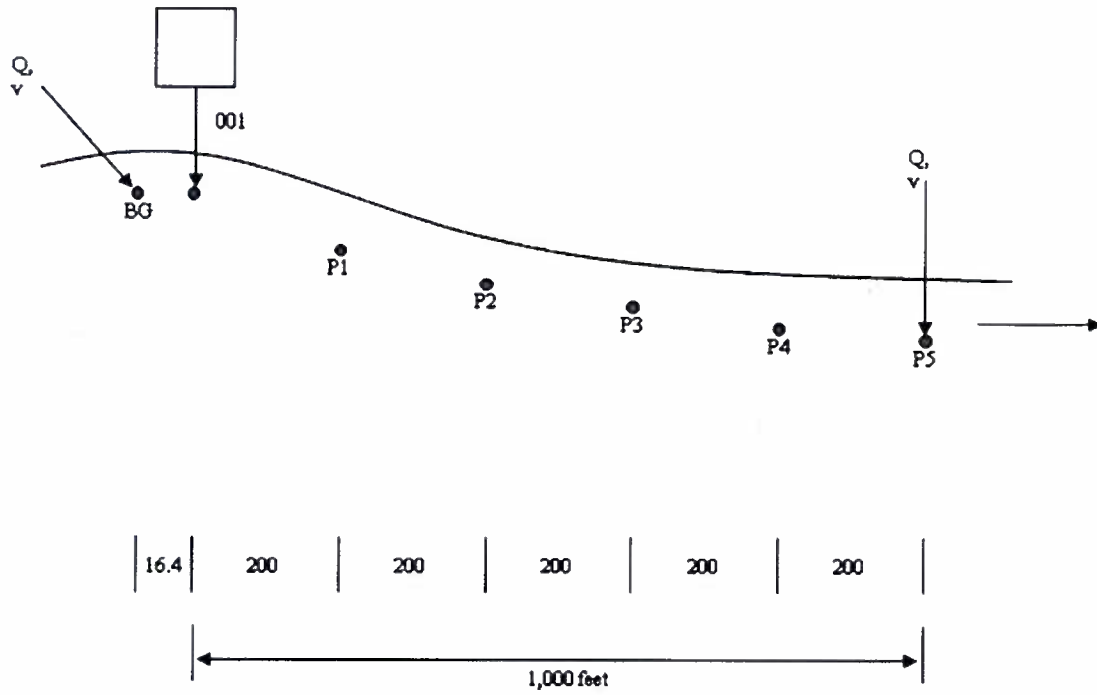
Receiving Water Name and Classification: Guayanilla River, SD

| <u>Parameters</u>                       | <u>Monitoring Frequency</u> |               | <u>Location</u> |
|---|-----------------------------|---------------|-----------------|
|   | Measurements Frequency      | Sample Type   |                 |
| BOD <sub>5</sub> (mg/l)                 | Quarterly                   | Grab          | A, B, C         |
| BOD <sub>u</sub> (mg/l)                 | Quarterly                   | Grab          | A               |
| Dissolved Oxygen (mg/l)                 | Quarterly                   | Grab          | A, B, C         |
| Flow (MGD, cfs)                         | Quarterly                   | Instantaneous | B, D            |
| Temperature (°F)                        | Quarterly                   | Grab          | A, B, C         |
| pH (SU)                                 | Quarterly                   | Grab          | A, B, C         |
| Total Ammonia (NH <sub>3</sub> ) (mg/l) | Quarterly                   | Grab          | A, B, C         |
| Velocity (Avg.) (ft/s)                  | Quarterly                   | Instantaneous | B, D            |

Sampling Locations:

- A= Point of discharge 001.
- B= Background station, located five (5) meters from discharge 001.
- C= Five (5) points downstream of the discharge 001 along a receiving water segment of one thousand (1000) feet, as shown in Figure 1 (next page).
- D= Point number 5, located one thousand (1000) feet from the discharge 001.

FIGURE - 1



## A. SPECIAL CONDITIONS

These special conditions are an integral part of the permit:

1. The flow of discharge 001 shall not exceed the limitation of 276.33 m<sup>3</sup>/day (0.073 MGD) as daily maximum. No increase in flow of discharge 001 shall be authorized without a recertification from the Puerto Rico Environmental Quality Board (EQB).<sup>1,5</sup>
2. The discharge 001 will consist of filter backwashes and sedimentation tanks drains treated in the Sludge Treatment System (STS) constructed for these purposes.
3. No changes in the design or capacity of the STS will be permitted without the previous authorization of EQB.<sup>5</sup>
4. Prior to the construction of any additional treatment system or the modification of the existing one, the permittee shall obtain the approval from EQB of the engineering report, plans and specifications.<sup>5</sup>
5. The permittee shall install, maintain and operate all water pollution control equipment in such manner as to be in compliance with the applicable Rules and Regulations.<sup>1,3</sup>
6. No toxic substances shall be discharged, in toxic concentrations, other than those allowed as specified in the NPDES permit. Those toxic substances included in the permit renewal application, but not regulated by the NPDES permit, shall not exceed the concentrations specified in the applicable regulatory limitations.<sup>2,3</sup>
7. The waters of Puerto Rico shall not contain any substance attributable to discharge 001, at such concentration which, either alone or as result of synergistic effects with other substances, is toxic or produces undesirable physiological responses in human, fish or other fauna or flora.<sup>2</sup>
8. The discharge 001 shall not cause the presence of oil sheen in the receiving water body.<sup>2</sup>
9. All sample collection, preservation, and analysis shall be carried out in accordance with the Title 40 of the Code of Federal Regulation (40 CFR), Part 136. All chemical analyses shall be certified by a licensed chemist authorized to practice the profession in Puerto Rico. All bacteriological tests shall be certified by a microbiologist or licensed medical technologist authorized to practice the profession in Puerto Rico.<sup>1,3</sup>
10. The permittee shall use the analytical method approved by the Environmental Protection Agency (EPA), with the lowest possible detection limit, in accordance with the 40 CFR, Part 136 for Sulfide (as S). Also, the permittee shall complete the calculations specified in Method 4500-S<sup>-2</sup> F, Calculation of Un-ionized Hydrogen Sulfide, of Standards Methods 18<sup>th</sup> Edition, 1992, to determine the concentration of undissociated H<sub>2</sub>S. If the sample results of Dissolved Sulfide are below the detection limit of the approved EPA method established in the 40 CFR,



Part 136, then, the concentration of undissociated H<sub>2</sub>S shall be reported as “below detection limit”.<sup>1,3</sup>

11. Within thirty (30) days after the Effective Date of NPDES Permit (EDP), the permittee shall submit to EQB a method to measure or estimate flow at discharge 001. If a flow measuring device is installed, it shall be periodically calibrated and properly maintained. Calibration and maintenance records must be kept in compliance with the applicable Rules and Regulations.<sup>3</sup>
12. If a flow-measuring device is installed, the sampling point for discharge 001 shall be located immediately after it.
13. The sampling point for discharge 001 shall be labeled with an 18 inches per 12 inches (minimum dimension) sign that reads as follows:

“Punto de Muestreo para la Descarga 001”

14. All water or wastewaters treatment facilities, whether publicly or privately owned, must be operated by a person licensed by the Potable Water and Wastewaters Treatment Plants Operators Examining Board of the Commonwealth of Puerto Rico.<sup>3</sup>
15. This special condition shall not become in effect until EQB has determined the applicability to the respective facility and has notified the permittee and EPA, in writing, of the necessity to comply with this special condition.

Not later than one hundred eighty (180) days after the Effective Date of this NPDES Permit Condition (EDPC), the permittee shall conduct semiannually acute toxicity tests for a period of one (1) year, after which the tests shall be performed annually, of its wastewater discharge through outfall serial number 001 in accordance with the following:<sup>3</sup>

- a. The test species should be the *Fathead Minnow* (*Pimephales promelas*) and *Cladocera* (*Daphnia magna*). The tests should be static renewal type.
- b. The toxicity tests shall be conducted in accordance with the EPA publication, EPA-821-R-02-012 Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (Fifth Edition), October 2002, or the most recent edition of this publication, if such edition is available.
- c. The tests shall provide a measure of the acute toxicity as determined by the wastewater concentration, which cause 50 percent mortality of the test organisms over a 48-hour period. The test results shall be expressed in terms of Lethal Concentration (LC) and reported as 48-hour, LC<sub>50</sub>.
- d. A procedure report shall be submitted within ninety (90) days after the EDPC. The following information shall be included in the procedure report: