



**United States Environmental Protection Agency**  
**Region 2**  
Caribbean Environmental Protection Division  
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Guaynabo, Puerto Rico 00968-8069

**FACT SHEET**

**DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
HUMACAO-LAS PIEDRAS WTP  
PERMIT No. PR0022829**

This Fact Sheet sets forth the principle facts and technical rationale that serve as the legal basis for the requirements of the accompanying draft permit. The draft permit has been prepared in accordance with Clean Water Act (CWA) section 402 and its implementing regulations at Title 40 of the *Code of Federal Regulations* (CFR), Parts 122 through 124, and the **interim** Water Quality Certificate (IIWQC) issued by the Puerto Rico Environmental Quality Board (EQB) pursuant to CWA section 401 requirements.

Pursuant to 40 CFR 124.53, the Commonwealth of Puerto Rico must either grant a certification pursuant to CWA section 401 or waive this certification before the U.S. Environmental Protection Agency (EPA) may issue a final permit. On **June 2, 2015**, EQB provided in the IIWQC that the allowed discharge will not cause violations to the applicable water quality standards at the receiving water body if the limitations and monitoring requirements in the IIWQC are met. In accordance with CWA section 401, EPA has incorporated the conditions of the **interim** IIWQC into the draft permit. **Any changes to the interim WQC will be incorporated into the final issuance of the permit.** The IIWQC conditions are discussed in this Fact Sheet and are no less stringent than allowed by federal requirements. Additional requirements might apply to comply with other sections of the CWA. Review and appeals of limitations and conditions attributable to the IIWQC were made through the applicable procedures of the Commonwealth of Puerto Rico and not through EPA procedures.

**PART I. BACKGROUND**

**A. Permittee and Facility Description**

The Puerto Rico Aqueduct and Sewer Authority (PRASA) (referred to throughout as the Permittee) has applied for **renewal of its Humacao-Las Piedras WTP** National Pollutant Discharge Elimination System (NPDES) permit. The Permittee is discharging pursuant to NPDES Permit No. **PR0022829**. The Permittee submitted **Application Form 1 and Form 2C** dated **June 1, 2010** and applied for an NPDES permit to discharge **treated** wastewater from **Humacao-Las Piedras WTP, Humacao**, called the facility. The facility is classified as a **minor** discharger by EPA in accordance with the EPA rating criteria.

The Permittee **owns and** operates **water treatment plant**. Attachment A of this Fact Sheet provides a map of the area around the facility and a flow schematic of the facility.

The treatment system consists of the following:

The Humacao-Las Piedras WTP is a water supply that provides conventional treatment to raw water from the Humacao and Guayanés River to supply potable water to various sectors in the town of Las Piedras and Humacao. A discharge of 1,287.29 m<sup>3</sup>/day (0.340 MGD) as daily maximum flow of untreated wastewaters consisting of filters and sedimentation tanks drains and discharge its effluent to Río Humacao.

**Water is processed through the following units:**

- **Coagulation & Flocculation Tank**
- **Sedimentation Tanks**
- **Filters**
- **Chlorination System**

➤ **Dechlorination System**

**Summary of Permittee and Facility Information**

<b>Permittee</b>	Puerto Rico Aqueduct and Sewer Authority (PRASA)
<b>Facility contact, title, phone</b>	Mrs. Irma Lopez, Executive Director Compliance and Quality Control (787) 620-2270
<b>Permittee (mailing) address</b>	Puerto Rico Aqueduct and Sewer Authority P.O. Box 7066 Barrio Obrero Station Santurce, Puerto Rico 00916-7066
<b>Facility (location) address</b>	Road 198 Km 28.3, Pra Ward, Humacao PR 00791
<b>Type of facility</b>	Publically-owned Treatment Works
<b>Pretreatment program</b>	N/A
<b>Facility monthly average flow</b>	0.11 MGD (in millions gallons per day)
<b>Facility design flow</b>	0.340 MGD (in millions gallons per day)
<b>Facility classification</b>	Minor

**B. Discharge Points and Receiving Water Information**

Wastewater is discharged from Outfall **001** to the **Humacao River** of the United States. The draft permit authorizes the discharge from the following discharge point(s):

<b>Outfall</b>	<b>Effluent description</b>	<b>Outfall latitude</b>	<b>Outfall longitude</b>	<b>Receiving water name and classification</b>
001	Sedimentation Tanks Drains and Filter Backwashes	18°, 09', 10" N	65°, 50', 00" W	Humacao River, SD

As indicated in the Puerto Rico Water Quality Standards (PRWQS) Regulations, the designated uses for Class **SD** receiving waters include:

- Use as a raw source of public water supply; and
- Propagation and preservation of desirable species, including threatened or endangered species.

CWA section 303(d) requires the Commonwealth of Puerto Rico to develop a list of impaired waters, establish priority rankings for waters on the list, and develop Total maximum daily loads (TMDLs) for those waters. The receiving water has been determined to have water quality impairments for one or more of the designated uses as determined by section 303(d) of the CWA. **TMDLs have been developed and approved by EPA for the following parameter: Fecal Coliforms.**

**C. Waste Load Allocation**

The IWQC has authorized waste load allocation for this discharge in accordance with Rule 1310 of PRWQS. The waste load allocation (WLA) analysis will be used as a mechanism to develop water quality-based effluent limits in order to have a reasonable assurance that the allowed discharged will not cause violations to the applicable water quality standards of the receiving water body at the immediate vicinity of the discharge.

**D. Compliance Orders/Consent Decrees**

The Permittee has a Consent Decree with the Agency (civil action no 10-1365 (sec)) in which the facility is included. This consent decree does not affect this permit action.

## E. Summary of Basis for Effluent Limitations and Permit Conditions - General

The effluent limitations and permit conditions in the permit have been developed to ensure compliance with the following, as applicable:

- Clean Water Act section 401 certification requirements;
- NPDES regulations (40 CFR Part 122); and
- PRWQS (August, 2014).

## PART II. RATIONALE FOR EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

CWA section 301(b) and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable technology-based requirements where necessary to achieve applicable water quality standards. In addition, 40 CFR 122.44(d)(1)(i) requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that cause, have the reasonable potential to cause, or contribute to an exceedance of a water quality criterion, including a narrative criterion. The process for determining reasonable potential and calculating water quality-based effluent limits (WQBELs) is intended to protect the designated uses of the receiving water, and achieve applicable water quality criteria. Where reasonable potential has been established for a pollutant, but there is no numeric criterion for the pollutant, WQBELs must be established using (1) EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The effluent limitations and permit conditions in the permit have been developed to ensure compliance with all federal and state regulations, including PRWQS. The basis for each limitation or condition is discussed below.

### A. Effluent Limitations

The permit establishes **Technology-based Effluent Limitations (TBELs)** for several pollutants and the basis for these limitations are discussed below.

1. **Flow:** An effluent limitation for flow **has** been established in the permit. Monitoring conditions are applied pursuant to 40 CFR 122.21(j)(4)(ii) **AND the IIWQC.**
2. **5-Day Biochemical Oxygen Demand (BOD<sub>5</sub>):** The effluent concentration and percent removal limitations are based on technology-based secondary treatment standards for publicly owned treatment works (POTWs) specified in 40 CFR 133.102(a). The permit also requires influent monitoring and reporting in accordance with 40 CFR 122.44(i) to meet the requirement of the percent removal limitation (see section C.1.—Monitoring Requirements— of this Part).
3. **pH:** The effluent limitation for pH is based on technology-based secondary treatment standards for POTWs specified in 40 CFR 133.102(c).
4. **Temperature:** The effluent limitation for temperature is based on the water quality criterion for Class **SD** waters as specified in Rule **1303 and 1306** of PRWQS, and the IWQC.
5. **Dissolved Oxygen (DO):** The effluent limitation is based on the water quality criterion for Class **SD** waters as specified in Rule 1303.2 D.2.a of PRWQS, and the IWQC.
6. **Color:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.e of PRWQS, and the IWQC.
7. **Turbidity:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.e of PRWQS, and the IWQC.
8. **Taste and Odor Producing Substances:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.g of PRWQS, and the IWQC.
9. **Sulfates:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.j of PRWQS, and the IWQC.
10. **Oil and Grease:** The effluent limitation is based on the water quality standards as specified in Rule 1303.1.H of PRWQS, and the IWQC.

11. **Suspended, Colloidal or Settleable Solids:** The effluent limitation is based on the water quality standards as specified in Rule 1303.1.E of PRWQS, and the IWQC.
12. **Solids and Other Matters:** The effluent limitation is based on the water quality standards as specified in Rule 1303.1.A of PRWQS, and the IWQC.
13. **Total Dissolved Solids:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.f of PRWQS, and the IWQC.
14. **Phosphorus:** The effluent limitation is based on the water quality criterion for **Class SD** waters as specified in Rule 1303.2.D.2.h of PRWQS, and the IWQC.
15. **Copper, Cadmium, Lead, Total Residual Chlorine, Zinc and Free Cyanide:** The effluent limitation is based on the water quality standards as specified in Rule 1303.1.I.1 of PRWQS, and the IWQC.

## B. Effluent Limitations Summary Table

### 1. Outfall Number 001

Parameter	Units	Effluent limitations					
		Averaging period	Highest Reported Value (1)	Existing limits	Interim limits	Final limits	Basis
BOD <sub>5</sub>	mg/L	Maximum Daily	4.2	30	--	8.2	WQBEL
Cadmium	ug/L	Maximum Daily	0.28	4	--	2.78	WQBEL
Color	Pt-Co	Maximum Daily	10	25	--	15	WQBEL
Copper	ug/L	Maximum Daily	41.0	167	--	7	WQBEL
Cyanide Free	ug/L	Maximum Daily	2.11	18	--	10	WQBEL
Dissolved oxygen	mg/L	Minimum Daily	7.8	>5.0	--	>5.0	WQBEL
Flow	m <sup>3</sup> /d (MGD)	Maximum Daily	0.172	1,287.29 (0.34)	--	1,287.29 (0.34)	WQBEL
Lead	ug/L	Maximum Daily	6.3	56.2	--	20	WQBEL
Oil & Grease	mg/L	Twice per Month	1.4	Monitor only	--	Monitor only	WQBEL
pH	SU	Minimum Daily	6.1	6.0-9.0	--	6.0-9.0	WQBEL
		Maximum Daily	7.6				
Residual Chlorine	mg/L	Maximum Daily	0.8	0.50	--	7.5	WQBEL
Sulfates	mg/L	--	--	--	--	α	WQBEL
Suspended, Colloidal and Settleable Solids	mL/L	Maximum Daily	150	Monitor only	--	Monitor only	WQBEL
Temperature	C	Maximum Daily	29.4	32.2 C	--	32.2 C	WQBEL
Total Dissolved Solids	mg/L	Maximum Daily	--	--	--	500	WQBEL
Total Phosphorus	mg/L	Maximum Daily	2.54	6	--	1.68	WQBEL
Turbidity	NTU	Average monthly	380	811	--	244	WQBEL
Zinc	ug/L	Maximum Daily	84.6	173.4	--	200	WQBEL

#### Notes, Footnotes and Abbreviations

Note: Dashes (--) indicate there are no effluent data, no limitations, or no monitoring requirements for this parameter.

(1) Wastewater data from DMRs dated June 30, 2013 to May 31, 2015 and June 2, 2010 application.

- α The permittee shall implement a monthly monitoring program using the EPA approved analytical method 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 (1) year monitoring program. Based on the evaluation of the results obtained, EQB will determine if an effluent limitation is necessary for this parameter. In such case the WQC will be reopened to include the applicable effluent limitation.

## 2. Outfall 001 Narrative Limitations

- a. The water of Puerto Rico shall be substantially free from floating non-petroleum oils and greases as well as petroleum derived oils and greases.
- b. The waters of Puerto Rico shall not contain floating debris, scum or other floating materials attributable to the discharge in amounts sufficient to be unsightly or deleterious to the existing or designated uses of the water body.
- c. Solids from wastewaters source shall not cause deposition in or be deleterious to the existing or designated uses of the water body.
- d. Shall not be present in amounts that will interfere with the use for potable water supply, or will render any undesirable taste or odor to edible aquatic life.
- e. Except by 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).

## C. Monitoring Requirements

NPDES regulations at 40 CFR 122.48 require that all permits specify requirements for recording and reporting monitoring results. The Part III of the Permit establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements for this facility.

### 1. Influent Monitoring Requirements

This facility is not subject to influent monitoring requirements.

### 2. Effluent Monitoring Requirements

Effluent monitoring frequency and sample type have been established in accordance with the requirements of 40 CFR 122.44(i) and recommendations in EPA's TSD. Consistent with 40 CFR Part 136 monitoring data for toxic metals must be expressed as total recoverable metal.

## D. Compliance with Federal Anti-Backsliding Requirements and Puerto Rico's Anti-Degradation Policy

Federal regulations at 40 CFR 131.12 require that state water quality standards include an anti-degradation policy consistent with the federal policy. The discharge is consistent with the anti-degradation provision of 40 CFR 131.12, 72 Federal Register 238 (December 12, 2007, pages 70517-70526) and EQB's *Anti-Degradation Policy Implementation Procedure* in Attachment A of PRWQS. In addition, CWA sections 402(o)(2) and 303(d)(4) and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. Further, the Region 2 Antibacksliding Policy provides guidance regarding relaxation of effluent limitations based on water quality for Puerto Rico NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit with some exceptions where limitations may be relaxed.

- The effluent limitations in the permit are at least as stringent as the effluent limitations in the existing permit, with the exception of effluent limitations for **Residual Chlorine and Zinc**. The effluent limitations for these pollutants are less stringent than those in the existing permit. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of CWA section 401(o), 40 CFR 122.44(l), EPA Region 2's Anti-backsliding Policy dated August 10, 1993, and Puerto Rico's Anti-Degradation Policy Implementation Procedure established in PRWQS. **CWA Sec. 402(o)(2)(B)(i)** allows backsliding if information is available which was not available at the time of permit issuance and would have justified a less stringent effluent limitation at the time of permit issuance. EPA has determined that it is appropriate to relax the effluent limitation for these parameters without violating anti-backsliding provisions of the CWA, in accordance with section 402(o)(2), since one of the exceptions to the provisions has been satisfied; and section 402(o)(3) since it complies with EQB's WQS which include antidegradation requirements. The EQB IWQC constitutes a determination that the limit is sufficient to assure that the water quality standards are or will be attained.

- Existing effluent limitations for Total **Ammonia, Hydrogen Sulfide, Fluoride, Arsenic, 2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 2,4-Dinitrophenol, 2,4,6-Trichlorophenol, Phenol, and Pentachlorophenol** have been removed based on CWA section 402(o)(2)(B)(i). CWA section 402(o)(2)(B)(i) authorizes the backsliding of effluent limitations if information is available which was not available at the time of permit issuance that would have justified the application of a less stringent effluent limitation at the time of permit issuance. Based on review of effluent data since issuance of the existing permit, the modified discharge does not show a reasonable potential for the exceedance of water quality criteria for these parameters.

### **PART III. RATIONALE FOR STANDARD AND SPECIAL CONDITIONS**

#### **A. Standard Conditions**

In accordance with 40 CFR 122.41, standard conditions that apply to all NPDES permits have been incorporated by reference in Part IV.A.1 of the permit and expressly in Attachment B of the permit. The Permittee must comply with all standard conditions and with those additional conditions that are applicable to specified categories of permits under 40 CFR 122.42 and specified in Part IV.A.2 of the Permit.

#### **B. Special Conditions**

In accordance with 40 CFR 122.42 and other regulations cited below, special conditions have been incorporated into the permit. This section addresses the justification for special studies, additional monitoring requirements, Best Management Practices, Compliance Schedules, and/or special provisions for POTWs as needed. The special conditions for this facility are as follows:

##### **1. Special Conditions from the Water Quality Certificate**

In accordance with 40 CFR 124.55, EPA has established Special Conditions from the WQC in the permit that EQB determined were necessary to meet PRWQS. The Special Conditions established in this section are only those conditions from the IWQC that have not been established in other parts of the permit.

##### **2. Whole Effluent Toxicity Testing**

EPA has imposed the quarterly testing requirement to collect data necessary to determine whether this discharge has the reasonable potential to cause or contribute to an exceedance of Puerto Rico's water quality standards for toxicity, pursuant to water quality based permitting requirements at 40 CFR 122.44(d)(1), which requires EPA and delegated states to evaluate each National Pollutant Discharge Elimination System (NPDES) permit for the potential to exceed state numeric or narrative water quality standards, including those for toxics, and to establish effluent limitations for those facilities with the "reasonable potential" to exceed those standards. These federal regulations require both chemical specific limits, based on the state numeric water quality standards or other criteria developed by EPA, and whole effluent toxicity effluent limits.

##### **3. Best Management Practices (BMP) Plan**

In accordance with 40 CFR 122.2 and 122.44(k), BMPs are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution to waters of the United States. The Permittee is required to develop a BMP Plan in Part IV.B.3.a of the permit to control or abate the discharge of pollutants.

##### **4. Compliance Schedules**

**A compliance schedule has not been authorized for any pollutant or parameter in the permit on the basis of 40 CFR 122.47.**

## **PART IV. COMPLIANCE WITH APPLICABLE PROVISIONS OF OTHER FEDERAL LAWS OR EXECUTIVE ORDERS**

### **A. Coastal Zone Management Act-Not Applicable**

### **B. Endangered Species Act**

Under 40 CFR 122.49(c), EPA is required pursuant to section 7 of the Endangered Species Act (ESA), 16 U.S.C. 1531 *et seq.* and its implementing regulations (50 CFR Part 402) to ensure, in consultation with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) that the discharge authorized by the permit is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat. **No federally listed endangered or threatened species, or critical habitat, are in the vicinity of the discharge. Therefore, EPA has determined that the discharge is not likely to affect species or habitat listed under the ESA.**

### **C. Environmental Justice-Not Applicable**

### **D. Coral Reef Protection-Not Applicable**

### **E. Climate Change**

EPA has considered climate change when developing the conditions of the permit. This is in accordance with the draft *National Water Program 2012 Strategy: Response to Climate Change* that identifies ways to address climate change impacts by NPDES permitting authorities (77 Federal Register 63, April 2, 2012, 19661-19662). Climate change is expected to affect surface waters in several ways, affecting both human health and ecological endpoints. As outlined in the draft National Water Program 2012 Strategy, EPA is committed to protecting surface water, drinking water, and ground water quality, and diminishing the risks of climate change to human health and the environment, through a variety of adaptation and mitigation strategies. These strategies include encouraging communities and NPDES permitting authorities to incorporate climate change strategies into their water quality planning, encouraging green infrastructure and recommending that water quality authorities consider climate change impacts when developing water load and load allocations for new TMDLs, identifying and protecting designated uses at risk from climate change impacts. The 2010 *NPDES Permit Writers' Manual* also identifies climate change considerations for establishing low-flow conditions that account for possible climatic changes to stream flow. The conditions established in the permit are consistent with the draft National Water Program 2012 Strategy.

### **F. National Historic Preservation Act- Not applicable since this is a renovation.**

### **G. Magnuson-Stevens Fishery Conservation and Management Act-Not applicable**

## **PART V. PUBLIC PARTICIPATION**

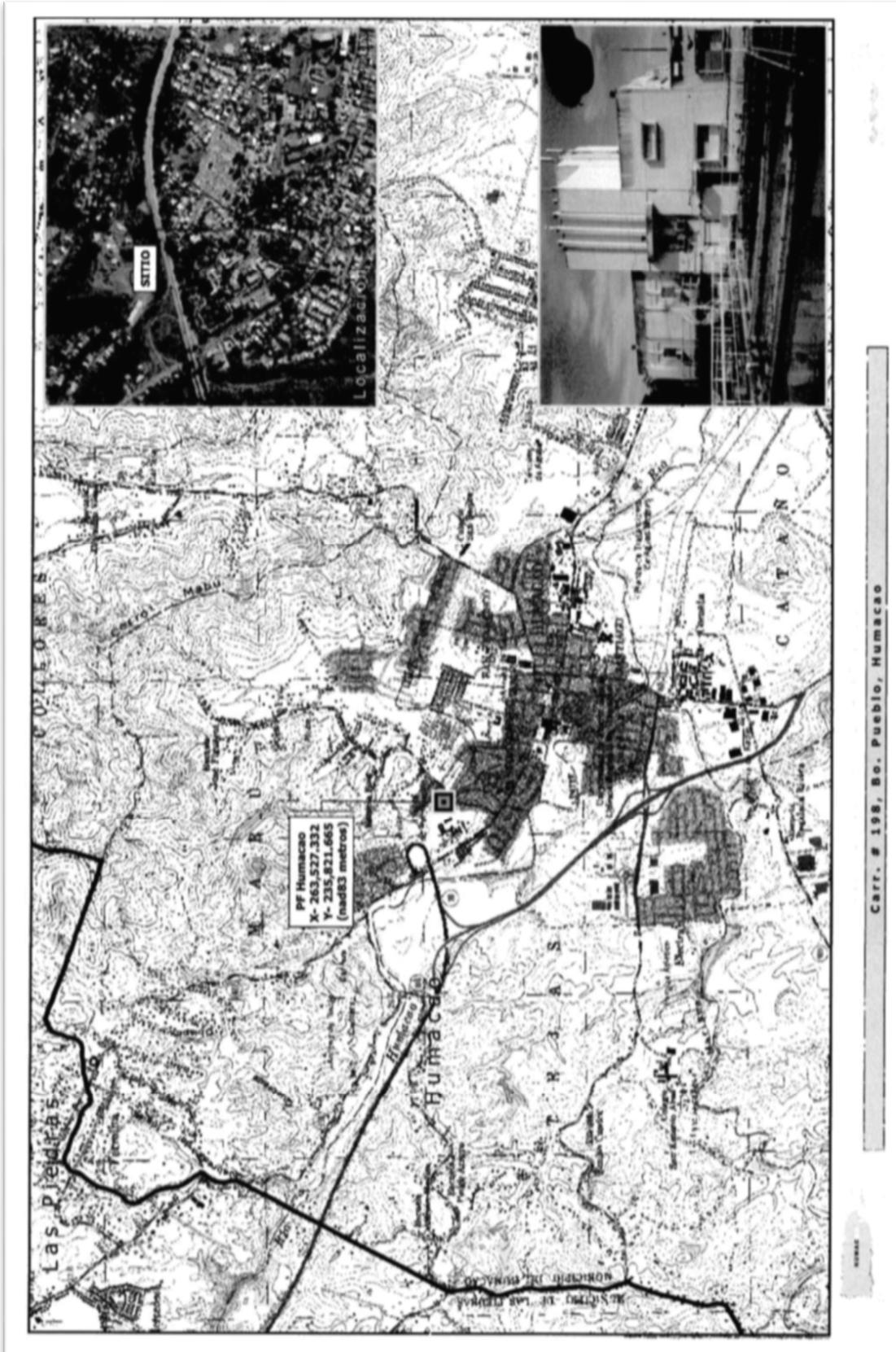
The procedures for reaching a final decision on the draft permit are set forth in 40 CFR Part 124 and are described in the public notice for the draft permit, which is published in *El Vocero*. Included in the public notice are requirements for the submission of comments by a specified date, procedures for requesting a hearing and the nature of the hearing, and other procedures for participation in the final agency decision. EPA will consider and respond in writing to all significant comments received during the public comment period in reaching a final decision on the draft permit. Requests for information or questions regarding the draft permit should be directed to

Myrek L. Nuñez  
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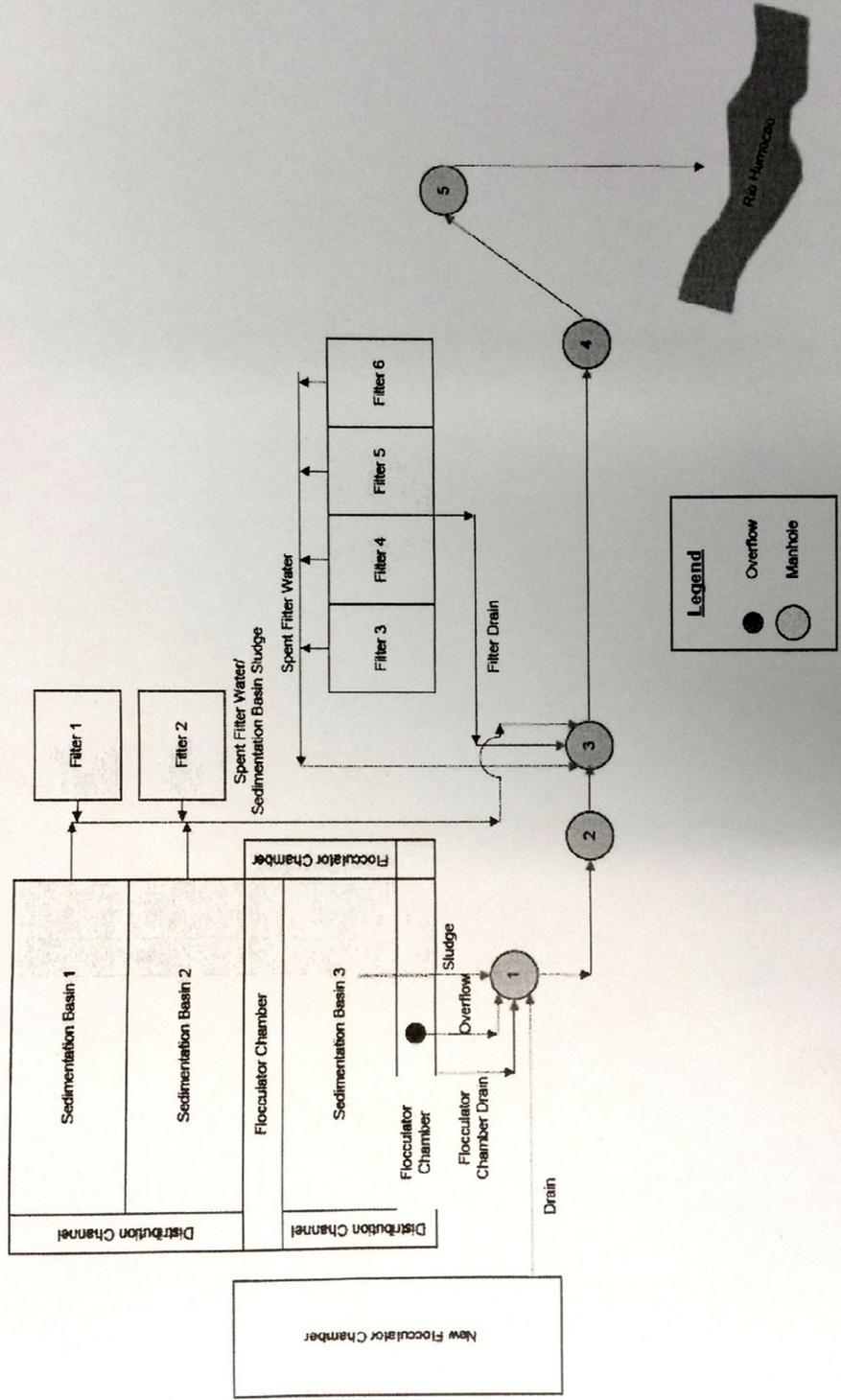
A copy of the draft permit is also available on EPA's website at [www.epa.gov/region02/water/permits.html](http://www.epa.gov/region02/water/permits.html).

### ATTACHMENT A — FACILITY MAP AND FLOW SCHEMATIC

The facility map and flow schematic are attached as provided by the discharger in the application.



### Flow Schematic at Humacao WTP



**Legend**

- Overflow
- Manhole