DNER

Department of Natural and Environmental Resources
Commonwealth of Puerto Rico

Stormwater Management Program (SWMP)

Written in Compliance with the Puerto Rico (PR) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s)

DNER's MS4 SWMP
Permit Number: PRR040048
October 28, 2016
Revised: November 20, 2017

TETRA TECH

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 ensure 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 fines and imprisonment for knowing violations."

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ACRONYMS

APU	Alternate Power Unit
BMP	Best Management Practices
CD	Consent Decree
CEPD	Caribbean Environmental Protection Division
CES	Erosion and Sedimentation Control "*Control de Erosión y Sedimentación*"
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZM	Coastal Zone Management Department
DNER	Department of Natural and Environmental Resources
DTPW	Department of Transportation and Public Works
EEP	Environmental Education Plan
EPA	United States Environmental Protection Agency
ERP	Enforcement Response Plan
ESA	Endangered Species Act
FC	Fecal Coliform
FOG	Fats, Oils, and Grease
GIS	Geographic Information System
GPM	Gallons per Minute
HTA	Highway Transportation Authority
IDDE	Illicit Discharge Detection and Elimination
IT	Information Technology or Data Processing
MCC	Motor Control Center
MCM	Minimum Control Measures
MEP	Maximum Extent Practicable
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MSJ	Municipality of San Juan
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
O&MP	Operation and Maintenance Plan
OGP	Office of Management and Budget "*Oficina de Gerencia de Presupuesto*"
OGPe	Office of Permits Management "*Oficina de Gerencia de Permisos*"
POC	Pollutant of Concern
PPP	Public Participation Plan
PRASA	Puerto Rico Aqueduct and Sewer Authority
PREQB	Puerto Rico Environmental Quality Board
PSA	Public Service Announcement
QAPP	Quality Assurance Project Plan
RCP	Reinforced Concrete Pipe
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasure
SW	Stormwater
SWMP	Stormwater Management Program
TMDL	Total Maximum Daily Load
USGS	United States Geological Survey
WQM	Water Quality Monitoring

DEFINITIONS

All definitions contained in appendix A of the PR 2016 MS4 General Permit shall apply to this SWMP and are incorporated herein below.

Word/Term	Definition
Best Management Practices (BMPs)	Schedules of activities, practices (and prohibitions of practices), structure, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
Control Measure	Any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.
Conventional Small MS4	Typical design of municipally owned conveyance or system of conveyances for collecting and conveying storm water. It is primarily an urban political unit having corporate status and usual powers of self-government in which it handles and maintain a conveyance or system of conveyances. In Puerto Rico, there are no first-order administrative divisions as defined by the United States Government, but Puerto Rico has 78 municipalities or "municipios" at the secondary order. For U.S. Census purposes, the municipalities are equivalent to counties.
Clean Water Act or CWA or The Act	Formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. Part 1251 et seq.)
Director	Regional Administrator of the Environmental Protection Agency or an authorized representative.
Discharge	When used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR § 122.2.
Discharge of a Pollutant	Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works (40 CFR § 122).
Discharge-related Activities	Activities which cause, contribute to, or result in stormwater and allowable non-stormwater point source discharges, and measures such as the siting, construction and operation of BMPs to control, reduce, or prevent pollution in the discharges.
Existing Discharger	An operator applying for coverage under this permit for discharges covered previously under an NPDES general or individual permit.
Facility or *Activity*	Any NPDES "point source" or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.
Federal Facility	Any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.
Illicit Connection	Any man-made conveyance connecting an illegal discharge directly to a municipal separate storm sewer.
Illicit Discharge	Defined at 40 CFR § 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from firefighting activities.
Impaired Water	A water is impaired if it does not meet one or more of its designated use(s). For purposes of this permit, "impaired" refers to categories 4 and 5 of the five part categorization approach used for classifying the water quality standards

Word/Term	Definition
	attainment status for water segments under the TMDL program. Impaired waters compilations are also sometimes referred to as "303(d) lists." Category 5 waters are impaired because at least one designated use is not being supported or is threatened and a TMDL is needed. Category 4 waters indicate that at least one designated use is not being supported but a TMDL is not needed (4a indicates that a TMDL has been approved, or established by EPA; 4b indicates that other required control measures are expected to result in the attainment of water quality standards in a reasonable period of time; and 4c indicates that the non-attainment of the water quality standard is the result of pollution (e.g. habitat) and is not caused by a pollutant. See EPA's 2006 Integrated Report Guidance, July 29, 2005, for more detail on the five-part categorization of waters (under EPA National TMDL Guidance, http://www.epa.gov/owow/tmdl/2006IRG).
Industrial Activity	Refers to the 10 categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity," as defined in 40 CFR § 122.26(b)(14)(i-ix) and (xi).
Industrial Stormwater	Stormwater runoff associated with the definition of "stormwater discharges associated with industrial activity."
Maximum Extent Practicable or *MEP*	Technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in stormwater discharges that was established by CWA Section 402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR § 122.34.
Municipal Separate Storm Sewer System or *MS4*	Defined at 40 CFR § 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains): (i) Owned or operated by a State, city, town, borough, municipality, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW), as defined at 40 CFR § 122.2, nor of the Puerto Rico Aqueduct and Sewer Authority.
New Source	Any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced: (i) after promulgation of standards of performance under Section 306 of the CWA which are applicable to such source, or (ii) after proposal of standards of performance in accordance with Section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.
New Source Performance Standards or NSPS	The technology-based standards for facilities that qualify as new sources under 40 CFR §§ 122.2 and 122.29.
No Exposure	All industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, hail and/or runoff.
Non-Conventional Small MS4	A conveyance or system of conveyances that collects stormwater that is owned and operated by the Commonwealth of Puerto Rico and/or Federal government that are located within an urbanized area. The term MS4 does not solely need to be municipally owned storm sewer systems. These Commonwealth of Puerto Rico and Federal operated facilities include universities, prisons, hospitals, and military bases (e.g., State Army National Guard barracks, parks and office building complexes) , flood control pumps, transportation authority, among others.
Notice of Intent or *NOI*	The mechanism application form used to "register" for coverage under a general permit.

Word/Term	Definition
Owner or Operator	The owner or operator of any "facility or activity" subject to regulation under the NPDES program.
Permitting Authority	EPA Regional Administrator or an authorized representative.
Person	An individual, association, partnership, corporation, municipality, State (i.e., Commonwealth of Puerto Rico) or Federal agency, or an agent or employee thereof.
Point Source	Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff, as stated under 40 CFR § 122.2.
Pollutant	Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal and agricultural waste discharged into water, as stated under 40 CFR § 122.2.
Pollutant of Concern	A pollutant that causes or contributes to a violation of a water quality standard, including a pollutant that is identified as causing an impairment in a Commonwealth of Puerto Rico's 303(d) list.
Reportable Quantity Release	A release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR §§ 110, 177, and 302 for complete definitions and reportable quantities for which notification is required.
Runoff Coefficient	The fraction of total rainfall that will appear at the conveyance as runoff.
Significant Materials	Includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical that the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.
Small Municipal Separate Storm Sewer System	All separate storm sewers that are (as defined in 40 CFR§122.26(b)(16)): (i) Owned or operated by the United States, a State, city, town, borough, municipality, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States. (ii) Not defined as "large"' or "medium" MS4s pursuant to sections 40 CFR §§ 122.26 (b)(4) and (b)(7), or designated under section 40 CFR § 126.26(a)(1)(v). (iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.
Small MS4	A small municipal separate storm sewer system.
Small MS4 Area	Municipality or municipalities where any Small MS4 is located.
State	The Commonwealth of Puerto Rico.
Stormwater	Defined at 40 CFR § 122.26(b)(13) and means stormwater runoff, snow melt runoff (not applicable in PR), and surface runoff and drainage.
Stormwater Discharges Associated with Construction Activity	Discharge of pollutants in stormwater runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout, fueling), or other industrial stormwater directly related to the construction

Word/Term	Definition
	process (e.g., concrete or asphalt batch plants) are located. (See 40 CFR §§ 122.26(b)(14)(x) and 122.26(b)(15)).
Stormwater Discharges Associated with Industrial Activity	Discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. For the purposes of this section, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in Appendix D of the MS4 General Permit. The term also includes those facilities designated under the provisions of 40 CFR § 122.26(a)(1)(v).
Stormwater Management Program (SWMP)	Comprehensive program to manage the quality of stormwater discharged from the municipal separate storm sewer system.
Total Maximum Daily Loads (TMDLs)	A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLAs) for point source discharges; load allocations (LAs) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See Section 303(d) of the Clean Water Act and 40 CFR§§ 130.2 and 130.7).
Urbanized Area	Comprises a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people. The "densely settled surrounding territory" adjacent to the place consists of: (1) Territory made up of one or more contiguous census blocks having a population density of at least 1,000 people per square mile that is: (a) Contiguous with and directly connected by road to other qualifying territory, or (b) Noncontiguous with other qualifying territory, and: (i) Within 1 ½ road miles of the main body of the urbanized area and connected to it by one or more non-qualifying census blocks that [a] are adjacent to the connecting road and [b] together with the outlying qualifying territory have a total population density of at least 500 people per square mile, or (ii) Separated by water or other undevelopable territory from the main body of the urbanized area, but within 5 road miles of the main body of the urbanized area, as long as the 5 miles include no more than 1 ½ miles of otherwise non-qualifying developable territory. (2) A place containing territory qualifying on the basis of criterion 1 [above] will be included in the urbanized area in its entirety (or partially, if the place is an extended city) if that qualifying territory includes at least 50 percent of the population of the place. If the place does not contain any territory qualifying on the basis of the above criterion, or if that qualifying territory includes less than 50 percent of the place's population, the place is

Word/Term	Definition
	excluded in its entirety. (3) Other territory with a population density of less than 1,000 persons per square mile, provided that it: (a) Eliminates an enclave of no more than 5 square miles in the territory otherwise qualifying for the urbanized area when the surrounding territory qualifies on the basis of population density, or (b) Closes an indentation in the boundary of the territory otherwise qualifying for the urbanized area when the contiguous territory qualifies on the basis of population density, provided that the indentation is no more than 1 mile across the open end, has a depth at least two times greater than the distance across the open end, and encompasses no more than 5 square miles.
Water Quality Standards (WQS)	Defines the water quality goals of a waterbody, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. Commonwealth of Puerto Rico and EPA adopt WQS to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA Sections 101(a)(2) and 303(c)).

1 BASIC SWMP INFORMATION

The Department of Natural and Environmental Resources (DNER) is the agency responsible for implementing the Commonwealth of Puerto Rico's Environmental Public Policy. DNER has the responsibility to encourage the conservation, adequate administration, and protection of Puerto Rico's natural and environmental resources.

DNER owns and operates a total of fourteen Flood Control Pump Stations (FCPSs) located at different municipalities of Puerto Rico. These are:

- Municipality of San Juan: Baldorioty de Castro, De Diego, and Stop #18
- Municipalities of Cataño/Guaynabo: Sabana, San Fernando, Juana Matos, La Malaria, and Bay View
- Municipality of Arecibo: Caño Tiburones
- Municipality of Salinas: Pichingo, Las Ochenta, El Guapo, and El Parque
- Municipality of Juana Diaz: Pastillo

Three are located within the urbanized area of the Municipality of San Juan (MSJ), known as the De Diego, Stop 18, and Baldorioty de Castro FCPSs. All fourteen (14) FCPSs are operated for the purpose of conveying stormwater to prevent flooding and protect life and property within their respective catchment areas. The flow to and transferred by the three DNER FCPSs originates from areas within the Santurce Ward, which is part of the urbanized area of the municipal separate storm sewer system (MS4) of MSJ and the Department of Transportation and Public Works of the Commonwealth of Puerto Rico (DTPW), thus DNER does not control or own the stormwater sewer system and connections discharging to the DNER pump stations.

Even though DNER does not have any control of the quantity or quality of water received in its FCPSs and does not contribute pollutants to the stormwater, DNER does operate the FCPSs that discharge stormwater to waters of the United States and, therefore, applied for National Pollutant Discharge Elimination System (NPDES) MS4 permit coverage for these discharges on July 15, 2016. NPDES permit number PRR040048 was assigned to the De Diego, Stop 18, and Baldorioty de Castro FCPSs and DNER will be applying for coverage under the NPDES MS4 permit for the remaining eleven (11) FCPSs in the near future.

It is the responsibility of the Regional Operations Administrator to ensure the adequate operation and maintenance of the FCPS to minimize to the Maximum Extent Practicable (MEP) the discharge of polluted stormwater into waters of the United States.

This Stormwater Management Program (SWMP) planning document has been developed by the DNER to describe the activities and measures that will be implemented throughout the different DNER's secretaries and programs to ensure that all terms and conditions of the General Permit for Stormwater Discharges from Non-Conventional Small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas of the Commonwealth of Puerto Rico (PR) (General Permit) are met.

1.1 STAFF ORGANIZATION

The office of the Secretary is leading the implementation of the SWMP with the support of the Regional Operations Administrator, the Environmental Emergencies Coordinator, the Education Secretary, the Administration Secretary, the Coastal Zone Management (CZM) Program Director, the Legal Services Office Director, the Information and Technology Office Director, the Water and Mineral Resources Director, the Rangers Commissioner, and Tetra Tech, Inc. (environmental consulting firm).

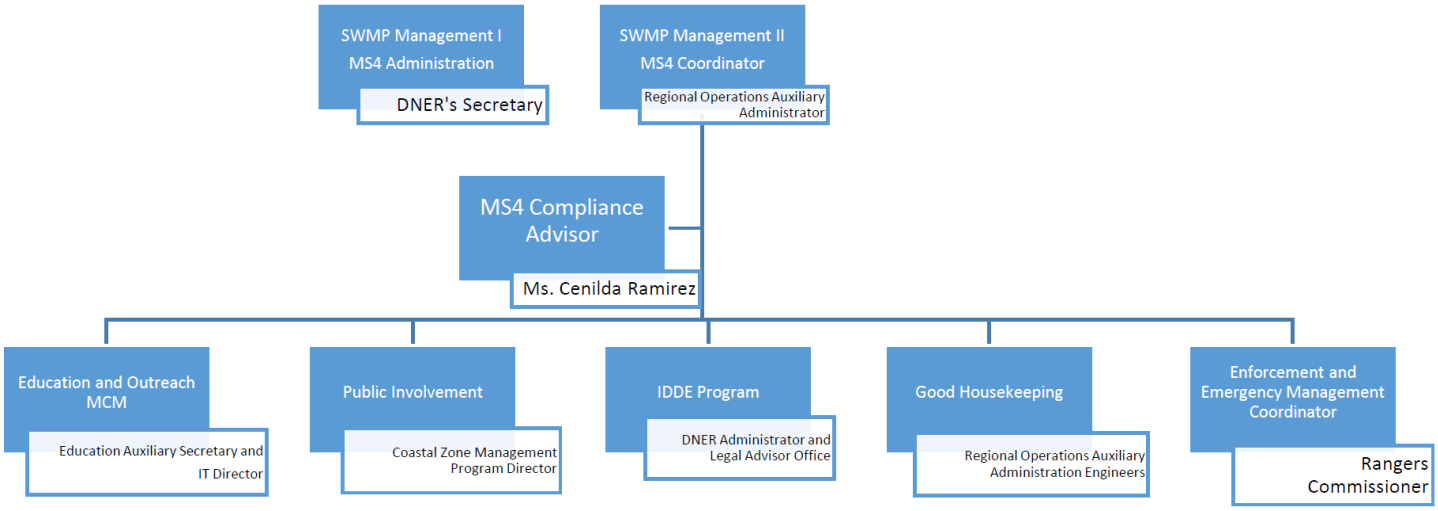
An Administrative Order has been developed by DNER to be consistent with the administrative changes that occurred between January 2017 and March 2017 to formalize a new SWMP Team. The objective of this team is to work together to address and implement the best management practices (BMPs) of the DNER's SWMP. The SWMP Team organizational chart, shown in Figure 1, includes the departments and the positions of the responsible employees.

Most of the SWMP Team members are secretarial or department directors, positions that have a high probability to change every year or at least after every political election year. For that reason, the information about the current SWMP Team members has been provided in a separate table that will be updated every year in the SWMP's annual report (Table 1).

Table 1 DNER's SWMP Team Members

MCM	Responsible Office or Department	Responsible Person	Contact
SWMP Management I	Secretary	Hon. Tania Vázquez	tvazquez@drna.pr.gov
SWMP Management II	Regional Operations Aux. Administration	Mr. Israel Alicea	iealicea@drna.pr.gov
MS4 Compliance Advisor	Tetra Tech Inc.	Ms. Cenilda Ramírez	cenilda.ramirez@tetratech.com
Public Education and Outreach I	IT Department Director	Mrs. Ana Maria Ramos	aramos@drna.pr.gov
Public Education and Outreach II	Education Auxiliary Secretariat	Mrs. Astrid Green	agreen@drna.pr.gov
Public Involvement	Coastal Zone Management Program	Mr. Ernesto Díaz Mr. Raul Santini	ediaz@drna.pr.gov rsantini@drna.pr.gov
IDDE Program I	DNER Administration	Jullymar Octtaviani	jocttaviani@drna.pr.gov
IDDE Program II	Legal Affairs Office	Anabelle Peterson	apeterson@drna.pr.gov
Good Housekeeping	Regional Operations Aux. Administration	Eng. Carlos Lozada	clozada@drna.pr.gov
Enforcement and Emergency Management	DNER's Ranger Commissioner	José Quiñones	josequi-nones@drna.pr.gov

Figure 1 SWMP Team Organizational Chart.



1.2 RECEIVING WATERS AND DRINKING WATER SOURCES

The waterbodies identified in Table 2 receive stormwater discharges from DNER's FCPS MS4.

Table 2 Receiving Water Data Summary Table

Receiving Waterbody Segments	**WQS Classification**	**Impairment/Pollutant of Concern**	**TMDLs**	**Applicable WLAs**	**No. of Discharging Outfalls**
De Diego FCPS Costa PREC13 East side of Condado Bridge to Punta las Marias	SB Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Not included in the 303(d) list	N/A	N/A	One (1)
Baldorioty de Castro FCPS PREE13A3 Los Corozos Lagoon in SJBE	SB Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500) Total Phosphorus (0910) Ammonia (0600) Surfactants (0400) Total Nitrogen (0920) Copper (0530) Lead (0550) Fecal Coliforms (1700) Total Coliforms (1700) Mercury (0560)	N/A	N/A	One (1)
Stop #18 FCPS PREE13A3 Cano Martin Pena in SJBE	SB Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500) Total Phosphorus (0910) Ammonia (0600) Surfactants (0400) Total Nitrogen (0920) Copper (0530) Lead (0550) Fecal Coliforms (1700) Total Coliforms (1700)	N/A	N/A	One (1)

Receiving Waterbody Segments	WQS Classification	Impairment/Pollutant of Concern	TMDLs	Applicable WLAs	No. of Discharging Outfalls
		Mercury (0560)			
Sabanas FCPS at PREE13A1 Puerto Nuevo Bay	Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	Approved TMDL on September 2012, the pollutant was Fecal Coliforms	N/A	One (1)
San Fernando FCPS at PREE13A1 Caño de San Fernando and into Puerto Nuevo Bay	Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	Approved TMDL on September 2012, the pollutant was Fecal Coliforms	N/A	One (1)
Bay View, Las Malarias and Juana Matos at PREE13A1	Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Enterococcus Bacteria (1700) Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	Approved TMDL on September 2012, the pollutant was Fecal Coliforms	N/A	Three (3)
Pichingo, Las Ochenta, El Guapo, and El Parque FCPSs at Salinas Bay, Punta Ola Grande to Punta Petrona, PRSC34	**SB** Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	N/A	N/A	Four (4)
Juana Díaz FCPS at Punta Ola Grande to Punta Petrona, PRSC34	**SB** Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Low Dissolved Oxygen (1200) Oil & Grease (1900) pH (1000) Thermal Modifications (1400) Turbidity (2500)	N/A	N/A	One (1)
Caño Tiburones FCPS at PRNC04	**SB** Designated Uses **R1** - Primary Contact Recreation **R2** - Secondary Contact Recreation **AL** - Aquatic Life	Confined Animal Feeding Operations (1640) Landfills (6300) Onsite Wastewater Systems (6500) Urban Runoff/Storm Sewers (4000)	Approved TMDL on September 2011, the pollutant was Fecal Coliforms	N/A	One (1)

Receiving Waterbody Segments	WQS Classification	Impairment/Pollutant of Concern	TMDLs	Applicable WLAs	No. of Discharging Outfalls

Notes: SB = ; SJBE =San Juan Bay Estuary ; TMDLs = total maximum daily loads; WLAs = wasteload allocations; WQS = water quality standards.

2 ENDANGERED AND THREATENED SPECIES AND CRITICAL HABITAT

The MS4s operated by the DNER has been evaluated to determine if listed threatened or endangered species and critical habitat are present within the MS4 urbanized area. Appendix C (Endangered Species Act Guidance Review Procedure) of the United States Environmental Protection Agency (EPA) Region 2 Small MS4 General Permit provides guidance to determine if the Endangered Species Act Eligibility Criteria can be met by the action subject of this evaluation for general permit coverage. The applicant consulted the official list of threatened and endangered species (pursuant to Title 50 of the *Code of Federal Regulations* [CFR] 402.12) compiled at the United States Fish and Wildlife Service's (USFWS's) website (http://ecos.fws.gov/ipac/). The applicant obtained an IPac Trust Resources Report for all three pumping stations from the USFWS. According to the report, a total of 12 flora and fauna species might be present within the vicinities of the discharge of the three pump stations (i.e., de Diego, Baldorioty de Castro, and Stop 18). These 12 species are presented in Table 3. There are no critical habitats in these locations.

Table 3. DNER Threatened and Endangered Species at De Diego, Baldorioty de Castro, and Stop No. 18 FCPS Facilities

Scientific Name	Common Name (English/Spanish)	Group	Status USFWS	Status DNER	Areas within the MS4 where are present
Sterna dougallii dougallii	Roseate Tern / palometa	Birds	T	E	
Agelaius xanthomus	Yellow-shouldered Blackbird / mariquita	Birds	E	E	Coastal Forest
Goetzea elegans	Beautiful Goetzea / mata buey	Flowering Plants	E	E	Quebradillas, Isabela, Luquillo, Fajardo y Vieques
Stahlia monosperma	Cobana Negra	Flowering Plants	T	V	Fundación LMM, Cabo Rojo, Guánica Fajardo y Vieques
Cornutia obovate	Palo De Nigua	Flowering Plants	E	E	Utuado (Bosque de Río Abajo); Barranquitas (Monte Torrecilla); Guajataca y Ciales
Banara vanderbiltii	Palo De Ramon	Flowering Plants	E	E	Toa Baja, Cayey y Luquillo
Schoepfia Arenaria	araña	Flowering Plants	T	E	Isabela, Carolina, Fajardo, Utuado y Manatí
Trichechus manatus	West Indian Manatee	Mammals	E	E	Coastal Zones
Eretmochelys imbricata	Hawksbill Sea Turtle / carey de concha	Reptiles	E	E	Coastal Zones
Epicrates inornatus	Puerto Rican Boa / boa de Puerto Rico	Reptiles	E	E	Karst
Acropora palmata	Elkhorn Coral	Cnidaria	T	T	Coastal Zones
Acropora cervicornis	Staghorn Coral	Cnidaria	T	T	Coastal Zones

Notes: E = endangered; T = threatened; V = veda

As part of the efforts by DNER to complete a Notice of Intent (NOI) for Small MS4 General Permit, an Endangered Species Act (ESA) and an National Historic Preservation Act (NHPA) was completed for the remaining eleven (11) stations, which are:

1. Sabana
2. San Fernando
3. Juana Matos
4. La Malaria
5. Bay View
6. Caño Tiburones
7. Pichingo
8. Las Ochenta
9. El Guapo
10. El Parque
11. Pastillo

Pichingo, El Guapo, Pastillo, El Parque and Las Ochenta FCPSs discharge stormwater into "Salinas Bay, Punta Ola Grande, Punta Petrona" water body. Caño Tiburones FCPS discharges into Punta Morrillos. Threatened or endangered species found in these areas are listed in Table 4.Table 4. DNER Threatened and Endangered Species at El Parque, Pastillo, Pichingo, El Guapo, El Parque and Los Ochenta.

Table 4. DNER Threatened and Endangered Species at El Parque, Pastillo, Pichingo, El Guapo, El Parque and Los Ochenta.

Scientific Name	Common Name (English/Spanish)	Group	Status USFWS	Status DNER	Areas within the MS4 where are present
Sterna dougallii dougallii	Roseate Tern / palometa	Birds	T	E	Coastal Areas
Agelaius xanthomus	Yellow-shouldered Blackbird / mariquita	Birds	E	E	Coastal Forest
Goetzea elegans	Beautiful Goetzea / mata buey	Flowering Plants	E	E	Quebradillas, Isabela, Luquillo, Fajardo y Vieques
Charadrius Melodus	Piping Plover	Birds	E	E	
Pelecanus Occidentalis	Brown Pelican	Birds	T	None	Coastal Areas
Stahlia monosperma	Cobana Negra	Flowering Plants	T	V	Fundación LMM, Cabo Rojo, Guánica Fajardo y Vieques
Chelonia Mydas	Green Turtle	Reptiles	T	T	Coastal Waters
Dermochelys Coriacea	Leatherback Sea Turtle	Reptiles	E	E	Coastal Waters
Banara vanderbiltii	Palo De Ramon	Flowering Plants	E	E	Toa Baja, Cayey y Luquillo
Caprimulgus Noctitherus	Puerto Rican Nightjar	Birds	T	T	Southern Plains
Eleutherodactylus Jasperi	Golden Coqui	Reptiles	T	T	Forest areas
Schoephia Arenaria	araña	Flowering Plants	T	E	Isabela, Carolina, Fajardo, Utuado y Manatí
Trichechus manatus	West Indian Manatee	Mammals	E	E	Coastal Zones
Eretmochelys imbricata	Hawksbill Sea Turtle / carey de concha	Reptiles	E	E	Coastal Zones
Epicrates inornatus	Puerto Rican Boa / boa de Puerto Rico	Reptiles	E	E	Karst
Ottoschulzia Rhodoxylon	Palo de Rosa	Flowering Plants	E	E	Arecibo

Notes: E = endangered; T = threatened; V = veda

Bay View, San Fernando, Sabana, Juana Matos and Malaria FCPSs discharge stormwater into "San Juan Bay/Puerto Nuevo Bay" water body. Threatened or endangered species found in these areas are listed in Table 4.Table 4. DNER Threatened and Endangered Species at El Parque, Pastillo, Pichingo, El Guapo, El Parque and Los Ochenta.

Table 5. DNER Threatened and Endangered Species at Bay View, Sabana, San Fernando, Juana Matos and Malaria.

Scientific Name	Common Name (English/Spanish)	Group	Status USFWS	Status DNER	Areas within the MS4 where are present
Sterna dougallii dougallii	Roseate Tern / palometa	Birds	T	E	Coastal Areas
Goetzea elegans	Beautiful Goetzea / mata buey	Flowering Plants	E	E	Quebradillas, Isabela, Luquillo, Fajardo y Vieques
Pelecanus Occidentalis	Brown Pelican	Birds	T	None	Coastal Areas
Stahlia monosperma	Cobana Negra	Flowering Plants	T	V	Fundación LMM, Cabo Rojo, Guánica Fajardo y Vieques
Chelonia Mydas	Green Turtle	Reptiles	T	T	Coastal Waters
Dermochelys Coriacea	Leatherback Sea Turtle	Reptiles	E	E	Coastal Waters
Banara vanderbiltii	Palo De Ramon	Flowering Plants	E	E	Toa Baja, Cayey y Luquillo
Schoephia Arenaria	araña	Flowering Plants	T	E	Isabela, Carolina, Fajardo, Utuado y Manatí
Trichechus manatus	West Indian Manatee	Mammals	E	E	Coastal Zones
Eretmochelys imbricata	Hawksbill Sea Turtle / carey de concha	Reptiles	E	E	Coastal Zones
Epicrates inornatus	Puerto Rican Boa / boa de Puerto Rico	Reptiles	E	E	Karst
Ottoschulzia Rhodoxylon	Palo de Rosa	Flowering Plants	E	E	Arecibo

Notes: E = endangered; T = threatened; V = veda

Even though the USFWS list identifies the species as having significant populations within the vicinities of the discharge of the three pump stations, the distribution provided is for the San Juan area in general and not the FPCS sites specifically. To determine the Criterion eligibility, the DNER has previously assessed the potential effects of the MS4's known stormwater discharges and discharge-related activities on listed species or critical habitat and followed the steps outlined in appendix C of the General Permit. The DNER has determined that the MS4's discharge meets eligibility under Criterion E (stormwater discharges are not likely to adversely affect any federally threatened or endangered listed species or designated critical habitat).

3 HISTORIC PROPERTIES

The National Historic Preservation Act of 1966 (NHPA), Section 106, requires Federal agencies to take into account the effects of Federal undertakings on historic properties, that are either listed on, or eligible for listing on the National Register of Historic Places. NHPA regulations defines "undertaking" to include a project activity or program of a Federal agency including those carried out by or on behalf of a Federal agency, those carried out with Federal financial assistance, and those requiring Federal permit, license or approval (36 CFR 800.16 (y)). NHPA regulations defines also define historic properties to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in the National Register of Historic Places. The term includes artifacts, records, and remains that are related to and located within such properties according to 36 CFR 800.16 (l).

The issuance of Small Municipal Separate Storm Sewer System (MS4) General Permit is considered a Federal undertaking within the meaning of NHPA regulation. EPA have established four (4) criteria for certifications by applicants that potential impact of their covered activities on historic properties have been appropriately considered and addressed. Although individual applications for coverage under the general permit do not constitute separate Federal undertakings, the screening criteria and certifications provide an appropriate site-specific means to addressing historic property issues in connection with

EPA's issuance of the permit. Applicants seeking coverage under the Small MS4 General Permit are thus required to make certain certifications regarding the potential effects of their stormwater discharge, allowable non-stormwater discharge, and discharge-related activities on properties listed or eligible for listing on the National Register of Historic Places. The applicant must meet one or more of the four (4) criteria to be eligible for coverage under the General Permit:

Criterion A: There is no potential of an adverse effect on historic properties because there will be no new ground disturbing control measures (which include stormwater) constructed or installed.

Criterion B: There are no historic properties or properties eligible for listing in the National Register of Historic Places within the area of potential effects (APE).

Criterion C: My subsurface stormwater controls have the potential to cause adverse effects on historic properties. After contacting in writing the EPA Regional office and the appropriate SHPO representative, I have coordinated with the SHPO authorized representative (or EPA in coordination with the SHPO authorized representative), and I received a written conclusion that my subsurface stormwater controls will not cause adverse effects on historic properties; or I have entered into a written agreement with the SHPO authorized representative (or EPA in coordination with the SHPO authorized representative) regarding measures required to mitigate or prevent adverse effects on historic properties.

Criterion D: My subsurface stormwater controls have the potential to cause adverse effects on historic properties. I have contacted both the EPA Regional office and the SHPO authorized representative in writing, and EPA provided the additional measures, if any, required for me to be eligible for permit coverage.

DNER operates a very limited MS4 consisting of the fourteen pump stations and associated outfalls. There are no properties that are listed or eligible for listing on the National Register of Historic Properties that have been determined to be affected by the DNER's MS4 discharge.

Within the DNER's MS4 urbanized area (upstream from DNER's pump stations), DNER identified a representative selection of the properties listed in the National Historic Properties List (NHPL) in Table 4. An evaluation of the information gathered from NHPL, previous earth disturbances, surveys or other activities conducted within the MS4's urbanized area and the best management practices that include construction or installation of any stormwater control measures requiring ground disturbing activities of less than one acre, within the MS4 operated by DNER have been conducted. It is concluded that there are not properties that are listed or eligible for listing on the National Register of Historic Properties have been determined to be affected by the DNER's MS4 discharge.

Table 6. DNER Historic Properties List within the DNER MS4 Urbanized Area

National Historic Properties	Location	Stormwater Control Measures (Potential Impact)
Aboy-Lompre Building	Ponce de León Ave. Miramar	N/A
Nuestra Señora de Lourdes Chapel	Ponce de León Avenue and Miramar	N/A
Miami Building	Ashford Avenue	N/A
Martín Pena Bridge	Martin Peña Channel	N/A
Arecibo LightHouse	Arecibo	N/A

To determine eligibility, DNER has previously assessed the potential effects of the MS4 known storm water discharges and discharge related activities on the properties listed in the National Register of Historic Properties List and followed the steps outlined in appendix D of the General Permit. DNER has determined that it meets eligibility under Criterion B.

4 MAP OF SEPARATE STORM SEWER SYSTEM

DNER owns and operates fourteen FCPSs with three located in the MSJ urbanized area: De Diego, Stop #18, and Baldorioty de Castro (see **Error! Reference source not found.**). The De Diego Stormwater FCPS is located in Condado, which is part of

the Santurce Ward of the MSJ. The geographic coordinates are latitude: 18°27'3.69"N, longitude: 66°03'55.11"W. The surroundings of De Diego FCPS are mixed residential and commercial units, including schools, hotels, small businesses, hospitals, individual homes, and condominiums. De Diego FCPS was transferred from DTPW to DNER. The design objective for the FCPS was primarily to create a flood control measure and to remove large-sized floatables and debris from stormwater before pumping it from the low elevation areas of the collection system end point to an outfall located on Condado Beach discharging to the Atlantic Ocean. The MS4 system consists of the FCPS and a 1,900-foot long, 30-inch diameter reinforced concrete pipe (RCP). The FCPS consists of a pump pit with static bar screens, a pump suction pit, three 35,000-gallons per minute (GPM) submersible pumps and one 15,000-GPM submersible pump with their respective electric motors, a mechanical rake system to clean the bar screen, a conveyor belt, generator, an oil dike, an electrical rooma diesel tank, and a facility control and operations office.

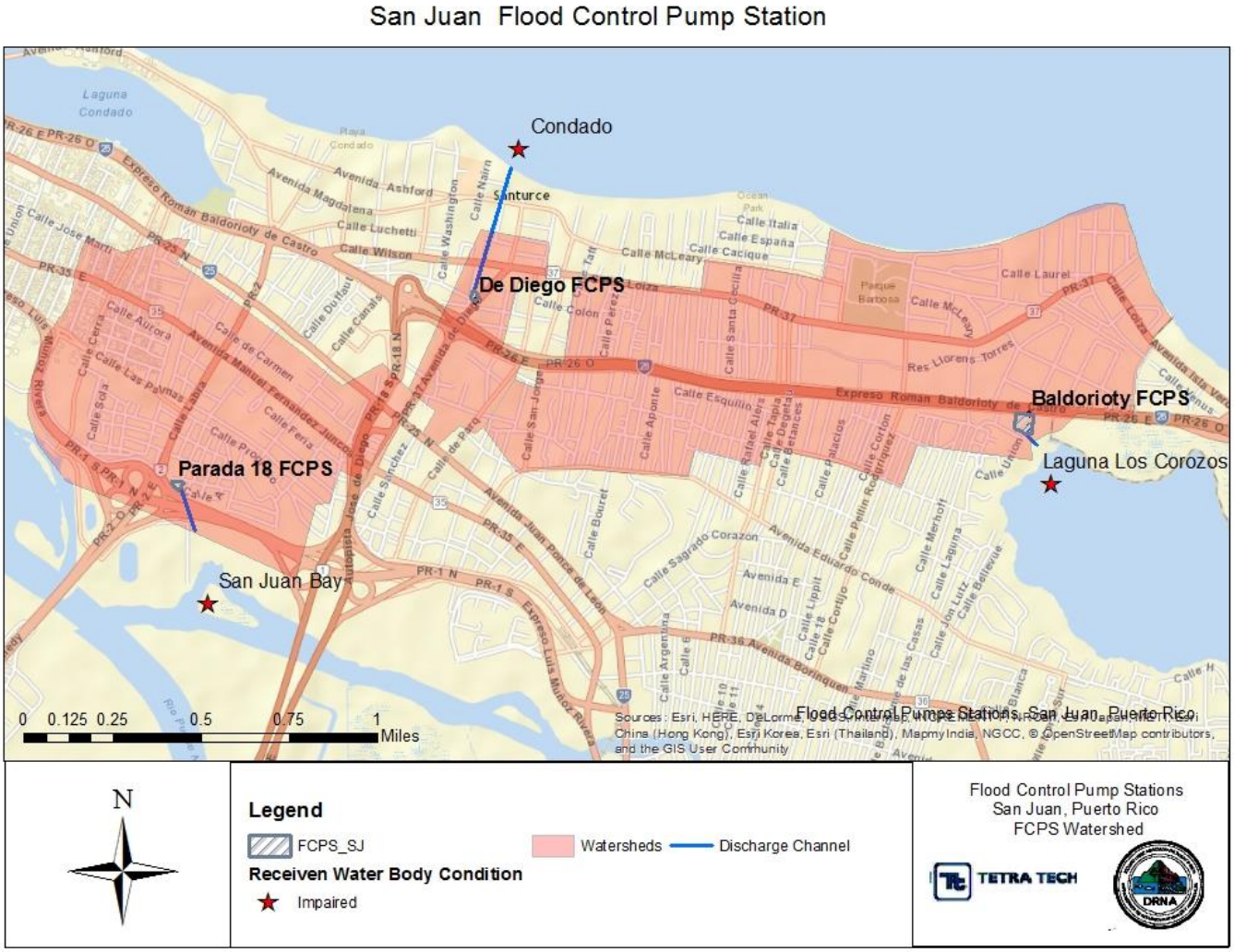


Figure 2. DNER MSJ FCPSs and their corresponding estimated watershed.

The Baldorioty de Castro Stormwater FCPS is located in La Playita Sector, which also is part of the Santurce Ward of the MSJ. The geographic coordinates are latitude: 18°26'45.91"N, longitude: 66°02'33.74"W. The surroundings of Baldorioty de Castro FCPS are mixed residential and commercial units, including schools, hotels, small businesses, hospitals, individual homes, and condominiums. Baldorioty de Castro FCPS was transferred from DTPW to DNER. The design objective was primarily to create a flood control measure and to remove large-sized floatables and debris from stormwater before

pumping it from the low elevation areas of the collection system end point to an outfall located in the Los Corozos Lagoon. From its east side, the Los Corozos lagoon ultimately flows into the Atlantic Ocean, going first through the San José Lagoon, the Torrecillas Lagoon, and a series of channels and drains through the Caño Martin Pena to San Juan Bay. The San José and Torrecillas lagoons receive stormwater from urban areas draining from south to north through natural and man-made channels. The MS4 system consists of the FCPS located on a 5,000-square meter site and an approximately 150-foot long reinforced concrete discharge channel. The FCPS consists of a main building that houses the pump's motor control center, kitchen, office, and five 100,000-GPM primary pumps (three are currently in service) and one 50,000-GPM primary pump; a secondary pump train housing one 50,000-GPM pump and two 10,000-GPM pumps soon to be installed; an inlet stormwater pit with a diversion wall to redirect the dry season low-flow to the secondary pump train and the mechanical rake area; an emergency generator; a storage building; tanks for diesel, oil, used oil, and water; a main discharging channel that conveys the flow from the main pump train; and a lateral discharging channel that conveys the flow from the secondary pump train into the main discharging channel.

The Stop #18 FCPS is located on Roosevelt Street in Barriada Figueroa, which also is part of the Santurce Ward of the MSJ. The geographic coordinates are latitude: 18º26'37.08"N, longitude: 66º4'38.92"W. The surroundings of Stop #18 FCPS are mixed residential and commercial units, including schools, hotels, small businesses, parks, individual homes, and condominiums. Stop #18 SW FCPS was transferred from DTPW to DNER. The design objective was primarily to create a flood control measure and to remove large-sized floatables and debris from stormwater before pumping it from the low elevation areas of the collection system end point to an outfall that discharges into a natural channel located 600 feet to the south at the east property line of San Juan Central Park and that drains to the Caño Martin Peña, which eventually flows into San Juan Bay. The MS4 system consists of the FCPS and an approximately 600-foot long RCP channel. The FCPS consists of a pit wet well, static bar screens, diesel storage tanks, a pump suction pit, two 75,000-GPM and one 50,000-GPM submersible pumps, and a discharging channel.

As required by the General Permit, a copy of FCPS existing storm sewer system map has been included in attachment 1. DNER has the original drawings of the FCPSs and, in the specific case of the Baldorioty de Castro FCPS, a copy of the construction drawings for the improvement of the FCPS dated 2000 also has been included in attachment 1. As per the 2016 General Permit requirements, the maps will be updated within 2 years.

5 CONTROLS FOR TARGETING POLLUTANTS OF CONCERN

The De Diego, Stop #18, and Baldorioty de Castro FCPSs are operated for the purpose of conveying stormwater to prevent flooding and protect life and property within their respective catchment areas. DNER does not control or own the stormwater sewer system and connections discharging into the DNER pump stations. The flow to and transferred by the three DNER FCPSs originates from areas within the Santurce Ward, which is part of the urbanized area of the MSJ and the DTPW's MS4s.

Even though DNER does not have any control of the quantity or quality of water received in their FCPSs and does not contribute pollutants to the stormwater, DNER does operate the FCPSs that discharge stormwater to waters of the United States.

The United States of America alleges that DNER is liable to the United States for injunctive relief addressing an imminent and substantial endangerment pursuant to section 504 of the CWA, Title 42 of the United States Code (U.S.C.) § 1364, that DNER has discharged untreated sewage, including, but not limited to, fecal coliform, oil and grease, metals and other "pollutants" into receiving waters of the United States in violation of section 301(a) of the CWA, 33 U.S.C. §§ 1311. As a result, the United States of America and DNER, without making any admission of fact or law, or evidence of the same, or of any violation of any permit, law, or regulation, agreed that (i) settlement of these unresolved matters in accordance with this Consent Decree with Civil Action No. 3:14-cv-01476-CCC-CVR (CD) is in the best interests of the United States, DNER, and the public; and (ii) entry of this CD without further litigation is the most expeditious, economic, and appropriate means of resolving their action to the extent set forth herein.

A CD was signed between the parties with the objective of eliminating unauthorized discharges to waters of the United States, and specifically for DNER to obtain NPDES permit coverage and to comply with the permit requirements and the Act; and for DNER together with the MSJ, DTPW/ Highway Transportation Authority (HTA), and others to take such actions to mitigate the imminent and substantial endangerment, and for DNER, as part of a comprehensive initiative with MSJ,

DTPW/HTA, and others to eliminate and/or reduce raw sewage in the stormwater from the MSJ and DTPW/HTA MS4s that enters the DNER's FCPSs.

5.1 CONTROLS FOR EXISTING DISCHARGES TO IMPAIRED WATERS WITHOUT TMDLS

The FCPSs were designed to prevent floods during precipitation events by transferring stormwater from the MSJ's MS4 catchment areas through the FCPS into receiving waters. DNER submitted an NPDES notice of intent (NOI) for the De Diego, Stop #18, and Baldorioty FCPSs, and the NPDES permit number PRR040048 was assigned by EPA.

Even though DNER FCPSs are not considered a source of stormwater pollution, it has been identified that DNER has discharged untreated sewage, including, but not limited to, fecal coliform, oil and grease, metals and other "pollutants" into receiving waters of the United States. The following pollutants of concern (POCs) have been identified as causing impairment in the receiving waters of two of the MSJ's DNER FCPSs (Baldorioty de Castro and Stop #18). The list of pollutants included in the 303(d) list are:

• Low Dissolved Oxygen	• Total Phosphorus	• Ammonia
• Oil & Grease	• Thermal Modifications	• Surfactants
• pH	• Turbidity	• Lead
• Total Nitrogen	• Copper	• Fecal Coliforms
• Total Coliforms	• Mercury	

The Puerto Rico Environmental Quality Board (PREQB) also is conducting water quality monitoring (WQM) in La Playita of the Condado area, where the De Diego FCPS discharges, as part of their Beach Monitoring Program. PREQB is monitoring for the following parameters: Enterococcus, pH, and temperature. The 303 (d) report listed as the potential pollutant sources the following:

• Collection System Failure	• On-site Wastewater System
• Confined Animal Feeding Operations	• Urban Runoff/Storm Sewers

The discharge of the FCPSs has the potential to contribute to receiving water impairments. DNER together with the MSJ, DTPW/HTA, and others agencies such as Puerto Rico Aqueduct and Sewer Authority (PRASA), and with the collaboration of other environmental and community organizations will take action to develop targeted controls that will be implemented to mitigate the imminent and substantial endangerment, and to eliminate and/or reduce pollutants in the stormwater from the MSJ and DTPW/HTA MS4s that enters the DNER's FCPSs. A detailed list of the control descriptions and measurable goals has been included in section 7 of this SWMP.

6 LEGAL AUTHORITY AND ENFORCEMENT

DNER as a nonconventional MS4 will enter into collaboration agreements with PRASA, MSJ, and DTPW/HTA's MS4s to address the MS4 General Permit requirements in sections 2.4.4.8.a, 2.4.5.3.a, and 2.4.6.3.

Control Measure	**BMP LA1 – Develop Adequate Legal Authority**
	DNER will evaluate adequate legal mechanisms to comply with the 2016 MS4 General Permit and the Consent Decree Case 3:14-cv-01476-CCC-CVR (CD) requirements. DNER conducted a review of legal authority in November 2017. DNER has adequate legal authority, with the Ranger Corps providing primary authority to enforce illicit discharges. The main limitation on legal authority is that the Ranger Corps must observe an illicit discharge to take an action. Meanwhile DNER shall develop and sign collaboration agreements with the MSJ, DTPW/HTA, PRASA and other agencies.
Measurable Goal:	• Interagency collaboration agreements drafted by 03/31/17. • Total number of agencies, organizations, and MS4s signing collaboration agreement with DNER.

	• Memorandum of identified alternatives or mechanisms to develop DNER's adequate legal authority to comply with the CD and 2016 MS4 General Permit requirements.
Person(s) or Department Responsible:	Legal Affairs Office's Director and Regional Operations Office Director

A portion of the MS4 of the DTPW/HTA and MSJ flows into the DNER FCPSs. It is required by the CD that DNER shall pay the first of 10 annual installments into the Court Registry to support the completion of phases I through IV activities under the MSJ Stage I Work Plan and / or the DTPW/HTA Stage I Work Plan for DNER's FCPSs Priorities areas. A copy of any request for payment/reimbursement must be sent by email to DNER at the time it is submitted for EPA's consideration.

DNER will develop and sign interagency agreements with the objective of complying with the CD and 2016 MS4 General Permit requirements. In addition, a SOP will be developed to specify the implementation procedures of the signed interagency agreements and the logistics of noncompliance notifications to EPA, PREQB, MSJ, DTPW/HTA, and PRASA.

Control Measure	**BMP LA2 – Develop Interagency Agreements Implementation SOP**
	DNER will develop a SOP to establish the implementation procedures of the interagency agreements and the logistics of noncompliance notifications to EPA, PREQB, MSJ, DTPW/HTA, and PRASA. The SOP will follow the requirements of Appendix A of the CD, Part II.A.2.b(i-v).
Measurable Goal:	Developed SOP by 05/28/17.
Person(s) or Department Responsible:	Legal Affairs Office's Director and Regional Operations Office Director

7 CONTROLS TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

The following sections describe DNER's program to reduce pollutants from its FCPSs' discharge to the MEP. As necessary, the sections describe partnerships that DNER is using to implement various BMPs, as allowed in Part 2.4.1.b. of the General Permit.

7.1 PUBLIC EDUCATION AND OUTREACH

The permittee is required to implement a public education program, which includes educational goals based on stormwater issues of significance within the small MS4 area, to increase knowledge and create awareness to prevent stormwater pollution. For the purpose of the DNER's FCPSs, the audience for the education program includes the general public (located within the FCPS catchment areas), employees, and any contractors working at the FCPSs. In addition, section 2.4.2 of the PR General MS4 Permit, Public Education and Outreach, specifies that the permittee shall implement an education program that includes educational goals based on stormwater issues of significance within the small MS4 area. At a minimum, the permittees shall develop, implement, and maintain a comprehensive stormwater education and outreach program to educate public employees, businesses, and the general public on the hazards associated with illegal discharges and improper disposal of waste and about the impact that stormwater discharges can have on local waterways, as well as on the steps the public can take to reduce pollutants in stormwater.

DNER's Environmental Education and Information Program is currently used to account for resources and expenditures related to creating, custody of, and dissemination of educational information and material about the importance of protecting our natural and environmental resources. DNER developed an MS4 Environmental Educational Plan (EEP) as described in BMP PE1 below. The EEP includes a strategy on how to integrate stormwater pollution prevention information into DNER's current Environmental Education and Information Program.

Educational material on the POCs identified in the FCPS's discharges into receiving waters and targeting the potential sources of pollution was developed. For a list of the POCs, refer to section 5 of this SWMP. The EEP includes the following educational topics and is designed to provide environmental education to the rangers, the SWMP Team, the contractors currently working in the FCPSs, and employees in general.

- Trash Free Waters—The EPA National Trash Free Waters (TFW) program has developed a set of actions and projects to significantly reduce or even eliminate the volume of trash and litter entering watersheds, aquatic ecosystems, and the marine environment. PR TFW efforts have focused on the "PB5": plastic Bags, micro-Beads/micro-plastics, single-use plastic beverage Bottles, food service Boxes (including polystyrene), and cigarette Butts. DNER will develop science-based educational material on the PB5s.

- General Concepts of Stormwater Pollution Prevention—DNER will develop educational material to explain the basic principles of stormwater pollution and the actions that could be adopted and implemented to prevent stormwater pollution.

- Oil and Grease—In collaboration with PRASA, DNER will develop educational material to create awareness on the adequate management of the oil and grease generated at food service establishments and residential sectors.

- Failing Septic Systems as a Pollutant Source—DNER will join efforts with the University of Puerto Rico and Agriculture Extension Services to develop educational material on the appropriate management of wastewater and residual water, septic tank adequate maintenance, and the effect of surface waters contaminated with fecal coliforms on human health.

- Green Stations—Reduce, Reuse, and Recycle information will be updated and used in collaboration with the University of Puerto Rico, the Puerto Rico Recycling Partnership (PRRP), and the MSJ.

- Hazard Risk Associated with Stormwater Illicit Discharge—Materials will be developed that illustrates the impact of our actions on stormwater pollution and the associated hazards with deterrent types of contamination.

Educational materials will be developed and distributed in a cost-effective manner to target audiences at least annually. PowerPoint presentations will be used to inform the key stakeholders of the availability of the educational material. Other educational material, such as public service announcements (PSAs), bus stop posters, bookmarks, and D-boards will be developed and available for the use of environmental organizations and agencies that have previously signed the memorandum of understanding (MOU).

Control Measure	**BMP PE1 – Develop a MS4 Environmental Education Plan (EEP)**
	DNER developed an EEP identifying and describing the strategies that will be followed to address the following topics: General Concepts of Stormwater Pollution Prevention, Illicit Discharges Detection and Management Procedures, Failing Septic Systems as Pollutant Sources, Oil and Grease Management in Residential and Commercial Sectors, Trash Free Waters Initiatives, Community and Volunteers Programs. The EEP includes guidance to develop reusable and sustainable educational material such as bookmarks and PowerPoint presentations that will be used to inform the key stakeholders of the availably of the EEP and its related educational materials. Key stakeholders include DNER employees, the general public, FCPS operators, and DNER contractors.
Measurable Goal:	• *Finalize and make the MS4 EEP available by Dec. 31, 2017*
Person(s) or Department Responsible:	*DNER Environmental Compliance Consultants with support of the Education Auxiliary Secretary, the Community Relations Division Director, and Printing Office Director and Graphic Arts Designer.*

Control Measure	**BMP PE2 – Develop Educational Material on POCs for each Target Audience**
	Develop PSAs, bookmarks, bus stop posters, MS Word PowerPoint presentations, D-boards, and other reusable promotional material. Printed brochures will NOT be developed.
Measurable Goal:	• *Availability and amount of educational material for each POC and potential pollution sources by December 31, 2017.*
Person(s) or Department Responsible:	*DNER Environmental Consulting Firm with the support of the DNER Education Auxiliary Secretary, the Community Relations Division Director, the CZM Environmental Education Manager, the Printing Office Director, and the Graphic Art Designer.*

Control Measure	**BMP PE3 – Develop and Sign Collaboration Agreements**
	Develop and sign collaboration agreements with other MS4s, agencies, and environmental groups to implement measures to achieve the 2016 MS4 General Permit and CD compliance requirements. DNER signed a collaboration agreement with the Puerto Rico Manufacturing Association (PRMA) on May 4, 2017. Collaboration agreements with MSJ, PRASA and DTPW have been sent to the respective agencies and DNER is awaiting comments.
Measurable Goal:	• *Collaboration agreements are delivered to partner agencies for signature by January 31, 2018.*
Person(s) or Department Responsible:	Legal Affairs Office's Director and Regional Operations Office Director

Control Measure	**BMP PE4 – Post MS4 Educational Materials Kits on the DNER Website and Make Them Available to Other MS4s and Environmental Organizations**
	Developed environmental education material is available on DNER website for free download and use (http://drna.pr.gov/programas-y-proyectos/ms4/educacion/). A specific amount of material will be available to be printed in D-boards or posters for SJBEP, TFWs, Cano Martin Pena, and other organizations through website request with the appropriate justification.
Measurable Goal:	*By March 2018, DNER will record:* • *Total number of downloads of the educational material from the MS4 section of the DNER website* • *Total number of people participating in each activity for which the educational material is used (if available)* • *Number of requests received through the website to develop educational material* • *Total number of organizations that download educational materials*
Person(s) or Department Responsible:	Data Processing and Information Technology Director with support of DNER's Consultants and the Education Auxiliary Secretary

Control Measure	**BMP PE5 – Conduct Biannual Meetings with MS4's Stakeholders**
	Coordinate and conduct biannual MS4's stakeholders meeting to follow up on collaboration agreement implementation status such as progress of the EEP implementation, status of the Illicit Discharge Detection and Elimination (IDDE) program implementation, and support needed from partners.

	Stakeholder meeting participants include DTPW, EPA, MSJ, PRASA, and NGOs (Yo Reciclo, PR-TFWs, and PRRP).
Measurable Goal:	• *Number of stakeholders participating in the biannual meetings.* • *Two biannual meetings conducted per year.*
Person(s) or Department Responsible:	DNER's Subsecretary or representative and MS4's stakeholders

Control Measure	**BMP PE6 – Conduct Employees and SWMP Implementation Team Trainings**
	Develop and conduct trainings for DNER MS4 SWMP Team and employees on the following topics: • *MS4 CD requirements* • *Stormwater pollution prevention* • *DNER SWMP requirements*
Measurable Goal:	• *Total number of employees trained* • *Number of SWMP Team members trained*
Person(s) or Department Responsible:	*DNER's Secretary and Regional Operation Office Directors*

7.2 PUBLIC INVOLVEMENT

DNER currently has developed a Regional Coordination Program. This program is used to account for resources and expenditures related to cleaning and maintaining in optimum condition the beaches and rivers among other waterbodies and the conservation of life and such property. Measurable goals of the program, a schedule that shows full implementation of all the program elements within the permit term, and the departments responsible for implementing each element of the program have been included in the tables below.

DNER will develop a Public Involvement Plan to ensure that the location of the written SWMP and annual reports are provided as to be available to the general public, the FCPS's operators, and contractors. The program will include the development of an MS4's section. This section will be added to the DNER's website and will include a tool to request educational materials, report illicit discharges, and enroll in Public Participation activities. Joining efforts with CD and MS4 stakeholders will increase feasibility of conducting public engagement activities and community members' participation on the activities. Taking that into consideration, DNER will sign collaboration agreements with the Scuba Dogs, Para la Naturaleza, and the San Juan Bay Estuary Program. As part of these collaboration efforts, DNER will develop storm drain marker art and will acquire 100 markers per year to be installed in FCPSs' catchment areas.

Control Measure	**BMP PI1 – Develop a Public Involvement Plan**
	As a new permittee, DNER will develop a Public Involvement Plan. DNER has a considerable diversity of current public participation programs and a desktop analysis of the current available programs will be conducted to select the ones that could be modified to address stormwater pollution and TFW goals.
Measurable Goal:	*Finalize and make the MS4 PIP available by 12/31/17.*
Person(s) or Department Responsible:	*DNER Environmental Compliance Consultants with support of the Education Auxiliary Secretary, the Community Relations Division Director, the CZM Environmental Coordinator, and Printing Office Director and Graphic Arts Designer*

Control	**BMP PI2 – Develop an MS4 Stormwater Section on the DNER Website**
	An MS4 section was added to DNER's current website (http://drna.pr.gov/cat/programas-y-proyectos/ms4/). The stormwater

	section includes an interactive section to enable users to request educational materials and report illicit discharges, to facilitate enrollment in public participation events, and to permit download of materials for MS4 education, outreach, and involvement activities.
Measurable Goal:	• *Number of illicit discharges reported on the website* • *Total downloads of educational material*
Person(s) or Department Responsible:	*Data Processing and Information Technology Director with support of DNER's Consultants*

Control	**BMP PI3 – Post a Digital Copy of the SWMP and its Annual Reports on DNER Website and Distribute a Hard Copy to Regional Offices**
	SWMP is posted on DNER website (http://drna.pr.gov/programas-y-proyectos/ms4/programa-de-manejo-de-escorrentias-del-departamento-de-recursos-naturales-y-ambientales-de-pr/). The public can post comments through a link on this same website (no comments have been received to date).
Measurable Goal:	• *Number of people downloading the digital copy of the SWMP or requesting the hard copy in the regional offices* • *Number of general community comments received that are evaluated and addressed*
Person(s) or Department Responsible:	*DNER's Consultants with support from the Data Processing and Information Technology Director*

Control	**BMP PI4 – Collaborate with the MS4 and CD Stakeholders in Storm Drain Marking Activities**
	DNER has identified that a significant amount of community members do not understand that stormwater is collected and transported through the MS4 and directly discharged to receiving waters without any treatment. *DNER developed storm drain markers art and will acquire 100 storm drain markers per year to be installed in the storm drains.* *DNER will join efforts, through collaboration agreements, with the CZMP Environmental Education Coordinator to organize activities to install the storm drain markers.*
Measurable Goal:	• *Total number of storm drains identified* • *Number of volunteers participating in the labeling activities*
Person(s) or Department Responsible:	*DNER's CZM Environmental Coordinator with the support of the Rangers Staff and DNER's Consultants*

Control	**BMP PI5 – Collaborate with Environmental Organizations on Coastal and Streams Pollution Prevention Awareness Activities**
	DNER will provide support to environmental organizations when organizing stormwater pollution prevention awareness activities. DNER will post the activity invitation in the website Stormwater MS4 section.
Measurable Goal:	• *Number of stormwater pollution prevention activities organized by MS4 and CD stakeholders posted on DNER website* • *Number of stormwater pollution prevention invitational flyers developed with the collaboration of DNER*
Person(s) or Department Responsible:	*DNER's Education Auxiliary Secretary, Administration, Rangers, and Regional Operations*

Control	**BMP PI6 – Implement DNER Green Stations in the Three Outfall Locations**

	DNER Green Stations Program will be implemented in the stormwater outfall locations. The DNER Green Stations will be adopted by a local community group and/or the MSJ that will organize educational activities and encourage general visitors to manage recyclable materials and regular trash adequately, increasing volunteer participation and general community awareness. The DNER Green Stations were installed in the outfalls of the three FCPSs.
Measurable Goal:	• *Number of DNER Green Stations installed* • *Number of community groups adopting the DNER Green Stations and conducting educational activities*
Person(s) or Department Responsible:	*DNER's Education Auxiliary Secretary, the CZM Environmental Coordinator, and the Printing Office Staff with the Support of the DNER's Environmental Consultant*

Control	**BMP PI7 – Implement CZMP Educational Program in Condado Beach**
	CZM Educational Program is an existing DNER program. Its main purpose is the conservation and improvement of the conditions of the beaches in PR. The objective is to encourage and facilitate the participation of industries, business owners, communities, and organizations in activities that will result in the protection and improved conditions of the beaches.
Measurable Goal:	• *Between June 30, 2018 and June 30, 2022, conduct at least one educational activity in Condado Beach* • *Total number of activities conducted every year to create awareness of stormwater pollution prevention*
Person(s) or Department Responsible:	*DNER's CZM Environmental Coordinator with the support of the Education Auxiliary Secretary*

Control	**BMP PI8 – Conduct Employees and SWMP Implementation Team Training**
	DNER staff shall be trained on: MS4 CD requirements, Stormwater Pollution Prevention, DNER SWMP requirements, and Pump Station Operation. *To ensure a proper implementation of the SWMP, all the DNER employees shall be trained on the different CD requirements, BMPs to prevent stormwater pollution prevention, and the DNER MS4 program. Training attendees will be required to sign in, and FCPS operators trained will be tracked.*
Measurable Goal:	• *Total number of employees trained* • *100% of SWMP Team trained* • *100% of operators trained*
Person(s) or Department Responsible:	*DNER's Secretary and Regional Operation Offices Director*

7.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.3.1 Overall IDDE Program

DNER developed a written IDDE program that includes all elements found at Part 2.4.4.8(a-h) of the General Permit. The DNER's IDDE program mainly consists of description of the MS4 current situation and the best practices to achieve a useful IDDE program implementation. The IDDE Plan discusses the program implementation assigned responsibilities. It includes a section on how to incorporate the use of Green Infrastructure as an approach to water management that protects, restores, or mimics the natural water cycle and a series of techniques that can be implemented to mitigate or compensate for this impact (e.g., increasing infiltration on-site measures such as vegetated swales, increasing landscape to paved area ration, stormwater planter boxes, vegetated curb extensions, the use of pervious surfaces for parking lots and walkways).

Illicit discharges do not include the following non-stormwater discharges (as listed in Section V, Paragraph B.2 of Appendix A of the CD): water line flushing, landscape irrigation, diverted stream flows, rising ground water, uncontaminated ground water infiltration (as defined at 40 CFR Part 35.2005(20)), uncontaminated pumped ground water, discharge from potable water sources, foundation drains, air condition condensate, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual resident car washing, flows from riparian habitats and wetlands, de-chlorinated swimming pool discharges, street wash waters, residential building wash waters without detergents. Discharges or flows from firefighting activities are allowed under the Consent Decree and the SWMP, unless the discharges or flows are identified as significant sources of pollutants to waters of the United States.

BMP identification below has been customized to best describe the goals, schedules, and person(s) or department responsible for the development of the comprehensive IDDE program.

Control Measure	**BMP IDDE1 – Develop a DNER IDDE Plan**
	The IDDE Plan was developed in June 2017 and includes a detailed description of the MS4 current situation and the best practices to achieve a useful IDDE program implementation. The IDDE Plan includes a statement of program implementation responsibilities.
Measurable Goal:	*DNER IDDE Plan developed. Goal met.*
Person(s) or Department Responsible:	*DNER's Environmental Consultants with the support of the DNER's Regional Offices Director*

Control Measure	**BMP IDDE2 – Submit for De Diego FCPS 10 Annual Payments for IDDE Work by PRHTA, DPTW, and MSJ**
	MSJ, DTPW, and PRHTA are responsible for identifying and eliminating illicit discharges and connections into the MS4 catch basin area that discharges into DNER's De Diego FCPS. It is DNER's responsibility, as per the CD, to submit $100,000/year for 10 years for IDDE work to be performed by PRHTA, DTPW, and MSJ.
Measurable Goal:	• *Amount of annual payments submitted* *Starts: March 2016* *Then the submittal of 1 payment/ year until September 2025*
Person(s) or Department Responsible:	*DNER's Administration Auxiliary Secretary*

Control Measure	**BMP IDDE3 – Submit for Stop #18 FCPS 10 Annual Payments for IDDE Work by PRHTA, DPTW, and MSJ**
	MSJ, DTPW, and PRHTA are responsible for identifying and eliminating illicit discharges and connections into the MS4 catch basin area that discharges into DNER's Stop #18 FCPS. It is DNER's responsibility, as per the CD, to submit $150,000/year for 10 years for IDDE work to be performed by PRHTA, DTPW, and MSJ.
Measurable Goal:	• *Amount of annual payments submitted* *Starts: March 2016* *Then the submittal of 1 payment/ year until September 2025*
Person(s) or Department Responsible:	*DNER's Administration Auxiliary Secretary*

Control Measure	**BMP IDDE4 – Submit for Baldorioty de Castro FCPS 10 Annual Payments for IDDE Work by PRHTA, DPTW, and MSJ**
	MSJ, DTPW, and PRHTA are responsible for identifying and eliminating illicit discharges and connections into the MS4 catch basin area that discharges

	into DNER's Baldorioty de Castro FCPS. It is DNER's responsibility, as per the CD, to submit $400,000/year for 10 years for IDDE work to be performed by PRHTA, DTPW, and MSJ.
Measurable Goal:	• *Amount of annual payments submitted* *Starts: March 2016* *Then the submittal of 1 payment/ year until September 2025*
Person(s) or Department Responsible:	*DNER's Administration Auxiliary Secretary*

Control Measure	**BMP IDDE5 – Develop a Database of Illicit Discharges for Reporting to EPA, PREQB, MSJ, PRASA, and PRHTA/DTPW**
	DNER will identify illicit connections into their MS4 system, consisting in the FCPS and the discharging pipe. FCPS operators will follow the SOP for illicit discharge monitoring, which describes how illicit discharges will be identified and reported in compliance with Appendix A of the CD, Parts II.2.b(i-v).
Measurable Goal:	• IDDE database monthly update
Person(s) or Department Responsible:	DNER's Data Processing and Information Technology Director with support of the Rangers and DNER's Environmental Consultant

Control Measure	**BMP IDDE6 – Develop MS4 Infrastructure Maps**
	DNER has the FCPS original drawings. An FCPS site plan update will be developed. DNER will follow up with the MSJ on the MSJ's MS4 Infrastructure maps development. The MSJ SWMP includes the development of De Diego, Stop #18, and Baldorioty de Castro FCPS MS4 catchment area maps development as a priority. *Having a better understanding of the MS4 catchment area infrastructure is essential to implementing the illicit discharges identification and elimination.*
Measurable Goal:	• *The FCPS MS4 Infrastructure maps will be updated by December 2017.* • *The FCPSs' catchment area MS4 maps will be developed by December 2017.*
Person(s) or Department Responsible:	*DNER's Consultants with the support of the FCPS engineers*

Control Measure	**BMP IDDE7 – Implement a Water Quality Monitoring (WQM) Program in all the FCPSs**
	Provision 13.a. of the DNER CD requires monitoring at each of three pump stations: De Diego, Baldorioty de Castro, and Stop #18. The parameters to be sampled are described in appendix F of the CD.
Measurable Goal:	*The following measurable goals shall be monitored for compliance:* • *Quality assurance project plan (QAPP) will be developed by February 2017.* • *WQM Plan developed by November 2016* • *WQM's request for proposal (RFP)* • *WQM's contractor selection* *WQM Plan implementation shall be started by January 2017*

Person(s) or Department Responsible:	*DNER's Consultants and Contractors*

7.3.2 IDDE Program Indicators

DNER's MS4 will develop and sign MOUs with the MSJ and DTPW's MS4s and with PRASA to establish procedures to develop measures to document the efforts to locate illicit discharges, the number of SSOs and illicit discharges identified and removed. As established in part 4.1.2, Ordinances and Regulatory Mechanisms, of the 2016 MS4 General Permit, "some non-conventional MS4s may not have authority to enact an ordinance, by-law, or other regulatory mechanisms."

MS4s without the authority to enact an ordinance shall ensure that written policies or procedures are in place to address the requirements of Section 2.4.4.8.a., Section 2.4.5.3.a., and Section 2.4.6.3. They may rely on EPA, the PREQB, and/or other Commonwealth of Puerto Rico/Federal offices for enforcement assistance."

More specifically, section 6.0, Non-Conventional MS4-Commonwealth of Puerto Rico Department of Natural and Environmental Resources, emphasizes that "DNER shall instead enter into interagency or interlocal agreements for monitoring pollutant sources and mitigate within (1) year of the authorization under this permit."

A meeting with the MSJ, PRASA, DTOP, and EPA was conducted on September 20, 2016, to discuss potential collaboration efforts to delineate, with the most updated data of each of the MS4s and/or agencies, the FCPS catchment area. Next steps and requisites from each MS4 and/or Agency to sign a memorandum of understanding (MOU) were discussed and the following was agreed upon between the meeting participants:

- The MSJ agreed to send an MOU development protocol and/or template to DNER to enable the agency to start developing the MOU to be signed by both MS4s permit holders. The protocol was scheduled to be submitted to DNER on or before September 30. The MSJ requested more time, specifically until October 4, to submit the MOU protocol and template. DNER has followed up with regard to that deliverable, but is still waiting to receive the protocol and template from MSJ.

- DTOP expressed their interest in signing a collaboration MOU, and DNER is developing a MOU draft.

- PRASA requested that a meeting be scheduled with the PRASA Compliance Department executive director to discuss the MOU requirements. Emails were sent on September 22 and October 6 to PRASA to coordinate that meeting, which was conducted on October 12. PRASA will send an MOU template on or before October 25.

In addition, Provision 13.a. of the DNER CD requires monitoring at each of three pump stations: De Diego, Baldorioty de Castro, and Barriada Figueroa. The parameters to be sampled are described in appendix F of the CD (see Attachment 9). DNER has selected a lab and is conducting the required sampling. The results of this sampling will be submitted to EPA per Provision 13.a. in Quarterly Reports (described in Part VIII of the CD). In addition, all sampling conducted at the De Diego Pump Station will be provided to EQP and EPA within 24 hours of receipt.

7.4 Pollution Prevention and Good Housekeeping for Municipal Operations

7.4.1 Operations and Maintenance Programs

DNER is required to (i) submit to EPA for review and approval a draft Operation and Preventive Maintenance Plan or its substantial equivalent (O&M Plan) for each of the three DNER pump stations, consistent with plans for stormwater FCPS as set forth in appendix E of the CD (Operation and Maintenance Plan). At a minimum, the O&MP shall include, but not be limited to, requirements for the following major pump station equipment: pumps, electric motors, electrical controllers, emergency generator unis, bar screens (mechanical and/or manual), debris and/or garbage collection systems (e.g., conveyors), mechanical hoists, monitoring equipment, level sensors, and wet well or pump station suction chamber structures.

The O&M Plans shall also include an essential inventory of materials necessary for proper operation and maintenance of the facilities, including, but not limited to, spare parts and system consumables (e.g., lubricants, fuses, etc.) and chemicals, if applicable. This inventory should be updated and maintained as necessary. (ii) On EPA approval of each O&M Plan, DNER shall implement the approved O&M Plan for each Pump Station, (iii) shall retain a qualified contractor to provide maintenance services and/or repairs as necessary or provide a list of qualified contractors or suppliers to provide such services.

In addition (vi) Prior to the implementation of EPA approved O&M Plan, DNER shall perform the following actions at the DNER Pump Stations and submit documentation illustrating compliance with each task described below in the CD Implementation Progress Report: Demonstrate that (a) an additional spare pump of the ones required to pump the volume associated with large and/or historical storm events is available and operable, (b) a trained operator is available at each FCPS on a daily basis to ensure its proper operation and maintenance, and (c) the operator maintains a log of all activities at the Facility, including the FCPS checklist.

DNER has been conducting reactive maintenance instead of preventive maintenance in their FCPS facilities. As per the CD requirement, maintenance services providers have been contracted by DNER for the emergency generator units and air conditioner units. The O&M Plan was developed by December 2017. Copies of the DNER contracts related to the CD and the MS4's SWMP implementation have been included in appendix O of the April-September 2017 Quarterly Report.

The development of the O&M manuals was completed on December 30, 2016. DNER is now implementing their preventive maintenance program.

Copies of the FCPS's equipment inventory and the available equipment manuals have been included in appendix P of the April-September 2017 Quarterly Report.

7.4.2 Oil and Grease, Floatables, and Sediments Control Measures and/or FCPSs Infrastructure Improvements

DNER has completed the following tasks in connection with the CD requirements:

- Conceptual Design for the Installation of Oil Booms or Alternative Measures to Reduce Oil Discharges from the Three Pump Stations was completed on December 15, 2016.
- Concepts to Reduce the Discharges of Fats, Oils and Greases (FOG), Floatable Solids and Other Contaminants of Concern from three DNER Pump Stations was submitted to EPA on January 31, 2017 and a revised version was submitted on February 15, 2017.
- Conceptual Design of Measures to Reduce the Impacts of Aerosol from the Discharge Channel of the Baldorioty Pump Station was submitted on December 30, 2016 and an alternate conceptual design was submitted on January 31, 2017.

DNER is working to perform the following tasks in connection with the CD requirements:

- Conceptual Design of a Wet Well Sedimentation Baffle for the Baldorioty Pump Station
- Preparation of a Concept Design and Technical Memorandum for the Installation of an Automatic Bar Screen System at the Stop 18 Pump Station
- Preparation of a Preliminary Opinion of Probable Cost for the Installation of a System to Manage the Discharges of Floatable Solid to Bodies of Water

7.4.3 FCPSs Cleaning Events

<u>Cleaning of the Wet Pit and Volume of Water and Suspended Solids Removed</u>

The FCPS's wet pit is cleaned on a quarterly basis by MITOR. The cleaning consists of collecting the sediment and water at the wet pit with a vacuum truck and/or tanker and transporting its contents to the authorized landfill or Regional Waste Water Treatment Plant. The wet pit liquid content with the suspended solids is processed as a bulk discharge.

The waste disposal manifests generated for the disposal of the pump station wet well water and suspended sediments are included in appendix I of the April-September 2017 Quarterly Report. The total approximate volume of water and suspended sediments removed during the wet pit cleaning efforts are documented, tabulated, and reported as described in BMP PPGH3.

DNER is using oil booms at the effluent during the activities of cleaning of the wet pit since the Cleaning Event that started on October 2016. This is a control measure during the cleaning process to collect any possible discharge of oil and/or grease that could be floating in the pit.

Daily Maintenance

Since February 2016, the operators have been using the FCPS's Daily Operation and Maintenance Checklist to ensure that maintenance practices are followed on a daily basis. They started using an updated FCPS Checklist as of November 1, 2016. This checklist includes a daily inspection of the pumps operation, bar screen cleaning, cleaning of the facility and its surroundings, an emergency generator inspection and pump monitoring, effluent sampling, wet pit cleaning events, pluviometer inspection, precipitation recording, and a daily log. Quarterly reports for October-December 2016, January-March 2017, and April-September 2017 include the daily maintenance checklists for the last four quarters. Weekly reports on daily maintenance have been included in January-March 2017 and April-September 2017 quarterly reports.

During the daily maintenance, the operator cleans the entrance bar screen of the De Diego and Baldorioty de Castro FCPSs using the mechanical rake system. The solids removed from the bar screen are stored in a trash container and once dried, they are disposed at a landfill as a nonhazardous waste. The FCPS's checklists were translated into Spanish, and the operators started using them on January 8, 2016 and training was provided to operators on March 10–11, 2016.

A new SOP was developed and the checklist was modified to be consistent with their current daily operation and to facilitate operators understanding of it. The SOP including the revised checklist was submitted for EPA approval at the Second Quarterly Meeting (July 12, 2016).

A detailed description of the measures, goals, BMPs, schedules and the person(s) or department responsible for the development of the comprehensive pollution prevention program have been included in section 7.4.1 of this SWMP

Control Measure	**BMP PPGH1 – DNER's Facilities Inventory**
	DNER Regional Operations Director will develop a list of all the DNER Nonconventional MS4 Facilities. The facilities that are located within urbanized areas will be identified. Information on the facilities' outfall locations and receiving waterbodies will be gathered and summarized in a Facilities Inventory Report.
Measurable Goal:	*DNER's Facilities Inventory Report was completed by November 2017 and will be updated annually, as needed.*
Person(s) or Department Responsible:	*DNER's Regional Operations Director*

Control Measure	**BMP PPGH2 – Develop Spill Prevention, Control, and Countermeasure (SPCC) Plans**
	DNER will develop SPCC plans for the FCPS to establish procedures, methods, equipment, and other requirements to prevent the discharge of oil from the FCPS into the navigable waters of the U.S.
Measurable Goal:	*SPCCs for FCPSs located within the MSJ urbanized area were developed March 2016.*
Person(s) or Department Responsible:	*DNER's Consultants with support of FCPS Engineers*

Control Measure	**BMP PPGH3 – Perform Annual and Triannual FCPS Cleaning**

	Conducting FCPS cleaning every 4 months and documenting in Quarterly Reports will remove sediments and other pollutants residues from the FCPS wet wells and result in the prevention of the discharge of those pollutants into the beach or the receiving waterbodies.
Measurable Goal:	*Conduct FCPS triannual cleaning* *Conduct FCPS annual cleaning* .
Person(s) or Department Responsible:	*DNER's Contractors with support of FCPS Engineers and Operators*

Control Measure	**BMP PPGH4 – Develop the Pump Station Checklist SOP and Start Using the Checklist on a Daily Basis**
	Update and customize the Pump Station Checklist included in appendix C (Daily Pump Station Checks) and the Influent Reconnaissance Checklist in appendix D of CD on a daily basis. An SOP and revised checklist was submitted to EPA for approval in July 2016.
Measurable Goal:	• *Complete and sign the Pump Station Checklist on a daily basis.* • *Weekly submittal of completed checklists to supervisors.*
Person(s) or Department Responsible:	*DNER's Consultants with support of FCPS Engineers and Operators*

Control Measure	**BMP PPGH5 – Conduct DNER's MS4 Monthly Inspections**
	Conduct Monthly Inspections on the conditions and existence of the MS4's outfall warning signs to ensure that the general community is notified of the restrictions in the area. Once installed, the oil and grease, aerosol, and floatables control measures shall be inspected on a monthly basis.
Measurable Goal:	*After August 2016 the following reports shall be submitted:* • *Conduct monthly warning signs inspection and complete reports* • *Once installed, conduct monthly oil, aerosol, and floatables BMPs inspection and complete reports*
Person(s) or Department Responsible:	*DNER's Consultant with support of FCPS Engineers*

Control Measure	**BMP PPGH6 – Conduct DNER's MS4 Daily and Weekly Inspections**
	The Pump Station Checklist included in appendix C (Daily Pump Station Checks) and the Influent Reconnaissance Checklist in appendix D of CD shall be used on a daily basis. *Mechanical bar screens must be cleaned at least weekly or more frequently if necessary. Manual bar screens must be cleaned as needed.* *A ruler or other device must be installed at FCPSs to measure water and sediment levels and conduct weekly monitoring conducted of sludge/sediment depth in the wet well.*
Measurable Goal:	*Since October 2016 the following is being documented:* • *Screen bar cleaning language in Daily Checklist* • *FCPS Stop #18's sludge/sediment depth monitoring* • *FCPS De Diego's sludge/sediment depth monitoring* • *Document water level monitoring device maintenance events and calibration.* • *Complete and sign Reconnaissance Checklist on a daily basis*

Person(s) or Department Responsible:	*DNER's FCPS Engineers and Operators*

Control Measure	**BMP PPGH7 – Develop SOP for Cleaning Bar Screens at the Pump Stations**
	DNER developed a SOP to perform the bar screens cleaning procedure with consistency in a regular basis. Mechanical bar screens must be cleaned at least weekly or more frequently if necessary. *Manual bar screens must be cleaned as needed. The SOP was submitted to EPA for review on December 30, 2016.*
Measurable Goal:	• *The SOP shall be developed by December 2016. Goal met.*
Person(s) or Department Responsible:	*DNER's Consultant with support of FCPS Engineers*

Control Measure	**BMP PPGH8 – Develop an Annual and Triannual Pump Station Wet Well Cleaning SOP**
	DNER developed a SOP to remove sediments and other pollutant residues from the FCPS wet well on a consistent and frequent manner to prevent the discharge of those pollutants into the beach or the receiving waterbodies. The SOP was submitted to EPA for review on December 30, 2016.
Measurable Goal:	• *The SOP shall be developed and approved by November 2016. Goal met.*
Person(s) or Department Responsible:	*DNER's Consultant with support of FCPS Engineers*

Control Measure	**BMP PPGH9 – Develop a SOP for Changing Booms at the Pump Stations (Oil Control Temporary Measure)**
	A standard procedure on oil booms management will be developed to ensure adequate management of the booms to prevent oil to be discharged into the beach or receiving waters. The SOP was sent to EPA on January 30, 2017.
Measurable Goal:	• *The SOP developed by November 2016. Goal met.* • *Oils booms replaced every 2 weeks or as needed since January 2016.* • *Weekly oil boom inspections conducted.*
Person(s) or Department Responsible:	*DNER's Consultant with support of FCPS Engineers*

Control Measure	**BMP PPGH10 – Develop a SOP for Oil Control Permanent Measures Management at the FCPS**
	Permanent installation of oil booms or an alternative method will prevent the discharge of oil into receiving waters. *The permanent installation of oil booms should be implemented at FCPSs, as follows: 2 booms at Baldorioty de Castro (1 for each influent pipe) and 1 each at Stop #18 and De Diego. The SOP was sent to EPA.*
Measurable Goal:	• *The SOP developed by January 2017. Goal met.* • *Oil booms or similar oil water separator installation by March 2017.* • *Changing oil booms as per SOP specifications.*

Person(s) or Department Responsible:	*DNER's Consultant with support of FCPS Engineers*

Control Measure	**BMP PPGH11 – Conduct a Feasibility Study for Continuous Electronic Monitoring of FCPS**
	A feasibility study for continuous electronic monitoring of the FCPS—including the following parameters: ammonia, pH, temperature, and total residual chlorine—at the wet wells will provide information on indicators of potential illicit discharges. The feasibility study was completed on February 2016 and submitted to EPA. A new feasibility study was completed on November 2017 after the effects of hurricane María.
Measurable Goal:	• Completion of continuous monitoring feasibility study by February 2016. Goal met.
Person(s) or Department Responsible:	*DNER's Contractors with support of FCPS Engineers*

Control Measure	**BMP PPGH12 – Implement Electronic Monitoring Recommendations of Feasibility Study**
	Feasibility study recommendations shall be implemented. The monitoring of the parameters at the FCPS inlet will provide water quality indicators information to notify MSJ, DTPW, and PRHTA on potential illicit discharges. Parameters monitored include ammonia, pH, temperature, and total residual chlorine.
Measurable Goal:	Since December 2016, the following should be monitored: • Number of parameters monitored • Number of notifications sent to MSJ, PRHTA, and DTPW • Reports developed in response to DNER notification
Person(s) or Department Responsible:	*DNER's Contractors with support of FCPS Engineers*

Control Measure	**BMP PPGH13 – MS4 Pump Station Operators, Engineers, and SWMP Team Training**
	Pump station operators, engineers, and SWMP Team must be trained on BMPs to implement adequate MS4 SWMP, SOPs, and SPCC Plans.
Measurable Goal:	Since September 2016 the following should be monitored: • *Train FCPS operators, engineers, and SWMP Team staff annually.* • Total number of FCPS operators, engineers, and SWMP Team staff trained
Person(s) or Department Responsible:	*DNER's Secretary, Environmental Consultants, and Regional Operation Office Directors*

Control Measure	**BMP PPGH14 – Install MS4 Outfall Warning Signs and Conduct Sign Monthly Inspections**
	Install the outfall warning signs and conduct monthly inspections on the conditions and existence of the MS4 outfall warning signs to ensure that the general community is notified of the restrictions in the area.

Measurable Goal:	Starting on January 2016, the following should be monitored: • MS4 outfall signs installed • Total number of monthly inspections conducted • Total number of signs replaced
Person(s) or Department Responsible:	DNER's Consultants with support of FCPS Engineers and Operators

Control Measure	**BMP PPGH15 – Develop an O&M Plans for FCPSs**
	An Operation and Preventative Maintenance Plan (O&MP) for the three DNER FCPSs was submitted to EPA on December 30, 2016. The O&MP is consistent with the items required in appendix E of the CD.
Measurable Goal:	• A FCPS O&MPs shall be developed by December 2016. Goal met.
Person(s) or Department Responsible:	DNER's Consultants with support of FCPS Engineers and Operators

Control Measure	**BMP PPGH16 – Place Lighting Fixtures at FCPS Wet Wells**
	DNER should properly place, operate, and maintain lighting fixtures in the FCPS wet wells to facilitate FCPS proper operation and maintenance. A March 2016 letter from DNER's lawyers indicated that lighting fixtures at the pump station wet wells were already installed.
Measurable Goal:	• Installation of lighting fixtures by February 2016. Goal met.
Person(s) or Department Responsible:	DNER's FCPS Engineers and Operators

Control Measure	**BMP PPGH17 – Conduct Pump Station Preventive Maintenance**
	DNER shall retain a qualified contractor for pump station maintenance and repair services. DNER can also request that some of the maintenance services be done in-house and submitted to EPA for approval as per the CD requirement.
Measurable Goal:	• Keep a log of inventory of available spare parts. • Keep FCPS's preventive maintenance certifications.
Person(s) or Department Responsible:	DNER's Contractors with support of FCPS Engineers and Operators

Control Measure	**BMP PPGH18 – Design, Submit, and Implement a Floatables Management Protocol**
	DNER shall submit a protocol for monitoring and measuring floatables such as bottles, litter, and debris in the DNER FCPSs' receiving waters. A floatable management plan was developed and submitted to EPA on

	January 31, 2017 and a revised version was submitted to EPA on February 15, 2017
Measurable Goal:	• Installation of controls identified in the final floatables report once funds have been identified.
Person(s) or Department Responsible:	DNER's Consultants, Contractors, and FCPS Engineers

Control Measure	**BMP PPGH19 – Develop and Submit a Feasibility Study for the Installation of Automatic Bar Screens at Stop #18**
	A Feasibility Study for Automatic Bar Screen Installation has the objective of identifying the adequate infrastructure to capture and remove solids for water quality purposes and to protect pumps from being damaged.
Measurable Goal:	• Complete feasibility study by December 2017 • Implementation of recommendations of the final feasibility study within 1 year of receipt of feasibility study approval by EPA.
Person(s) or Department Responsible:	DNER's Consultants and Contractors with the support of the FCPS Engineers

Control Measure	**BMP PPGH20 – Design and Construction of a Wet Well Baffle Wall in Baldorioty de Castro FCPS**
	Design and build a wet well baffle wall to improve sedimentation in wet well.
Measurable Goal:	• Wet well baffle improvement design by August 2017. • Wet well baffle construction completion certification by November 2017.
Person(s) or Department Responsible:	DNER's Consultants and Contractors with the support of the FCPS Engineers

Control Measure	**BMP PPGH21 – Design and Implement an Aerosol Control Measure in Baldorioty de Castro FCPS**
	Design and build an aerosol control measure to minimize health risks of FCPS discharge neighbors. A conceptual design for aerosol control was submitted to EPA on January 31, 2017. DNER determined that under aerosol is not created during the operation of pumps.
Measurable Goal:	• Aerosol BMP design by December 2016. • Aerosol BMP implementation by March 2017.
Person(s) or Department Responsible:	DNER's Consultants and Contractors with the support of the FCPS Engineers

Control Measure	**BMP PPGH22 – Develop an MS4's SWMP Recordkeeping SOP**
	DNER will develop a SOP to standardize and facilitate the recordkeeping procedures to comply with the 2016 MS4 General Permit and the CD requirements.
Measurable Goal:	• SOP developed and approved by January 2018.

Person(s) or Department Responsible:	DNER's Consultants

8 PROGRAM EVALUATION

8.1 ANNUAL COMPLIANCE EVALUATION

Control Measure	**BMP PE01 – Conduct an Annual Compliance Assessment and an MS4's SWMP Implementation Report**
	DNER will develop a SOP to standardize and facilitate the annual program self-evaluation.
Measurable Goal:	• MS4's SWMP annual report developed and submitted on June 2017 and consecutive years.
Person(s) or Department Responsible:	DNER Consultants and Regional Offices Operation Director

ATTACHMENT 1 – SITE PLANS FOR FCPS FACILITIES

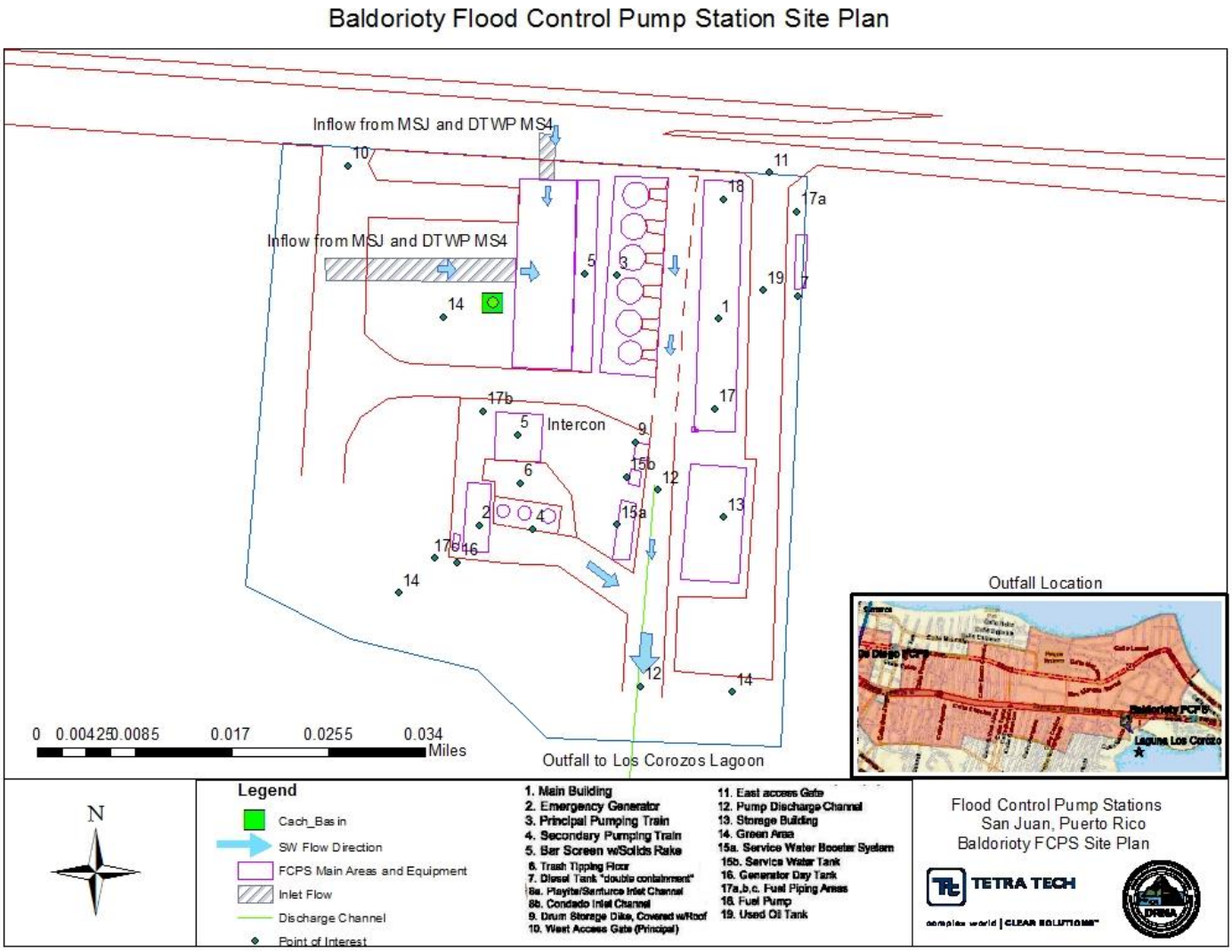
The following figures include site plans for the FCPS facilities. Electronic copies of the FCPS drawings have been included in the attached CD.

1. *De Diego Stormwater FCPS Facility*

Figure 1- De Diego FCPS Site Plan

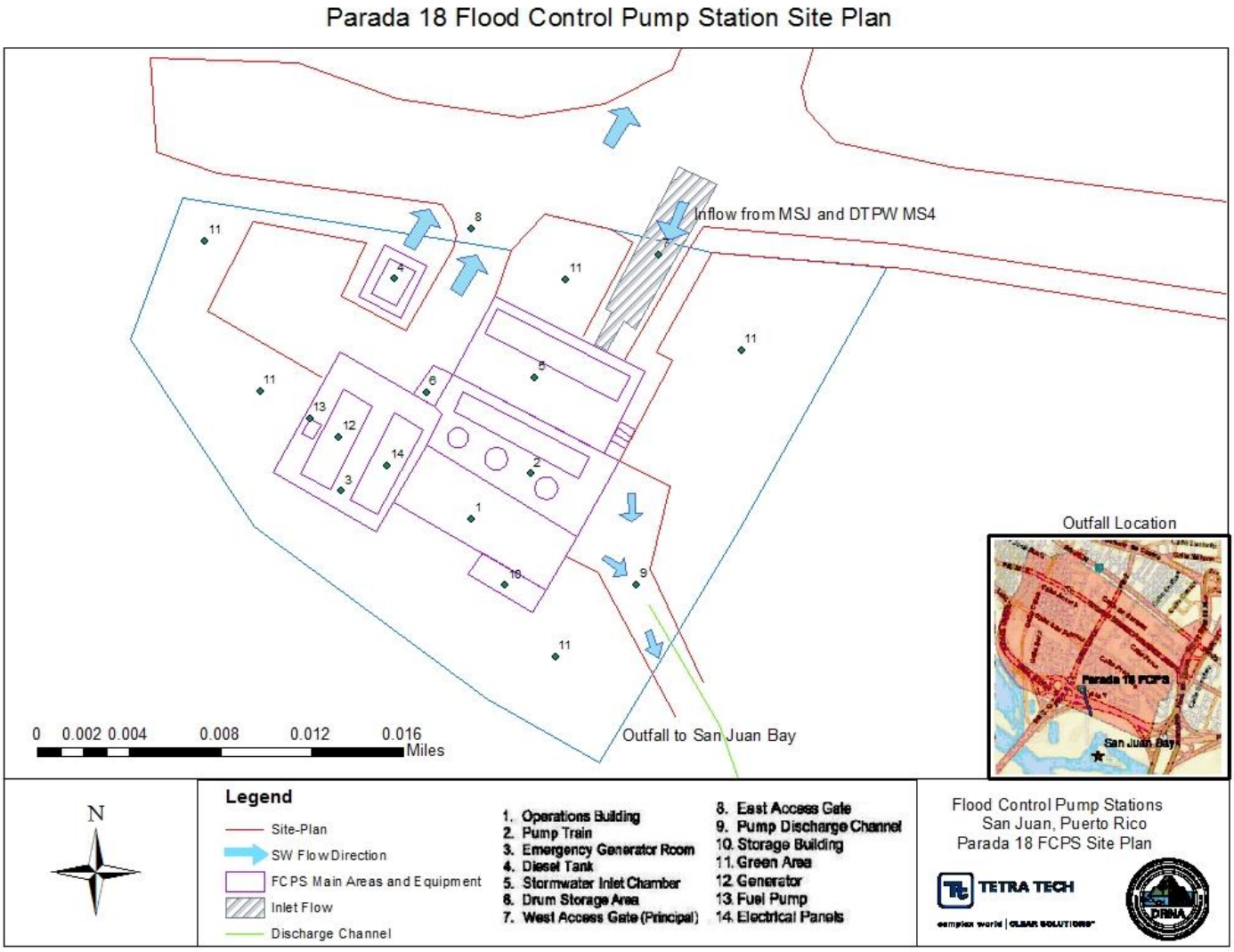
2. Baldorioty de Castro Stormwater FCPS Facility

Figure 2- Baldorioty de Castro FCPS Site Plan

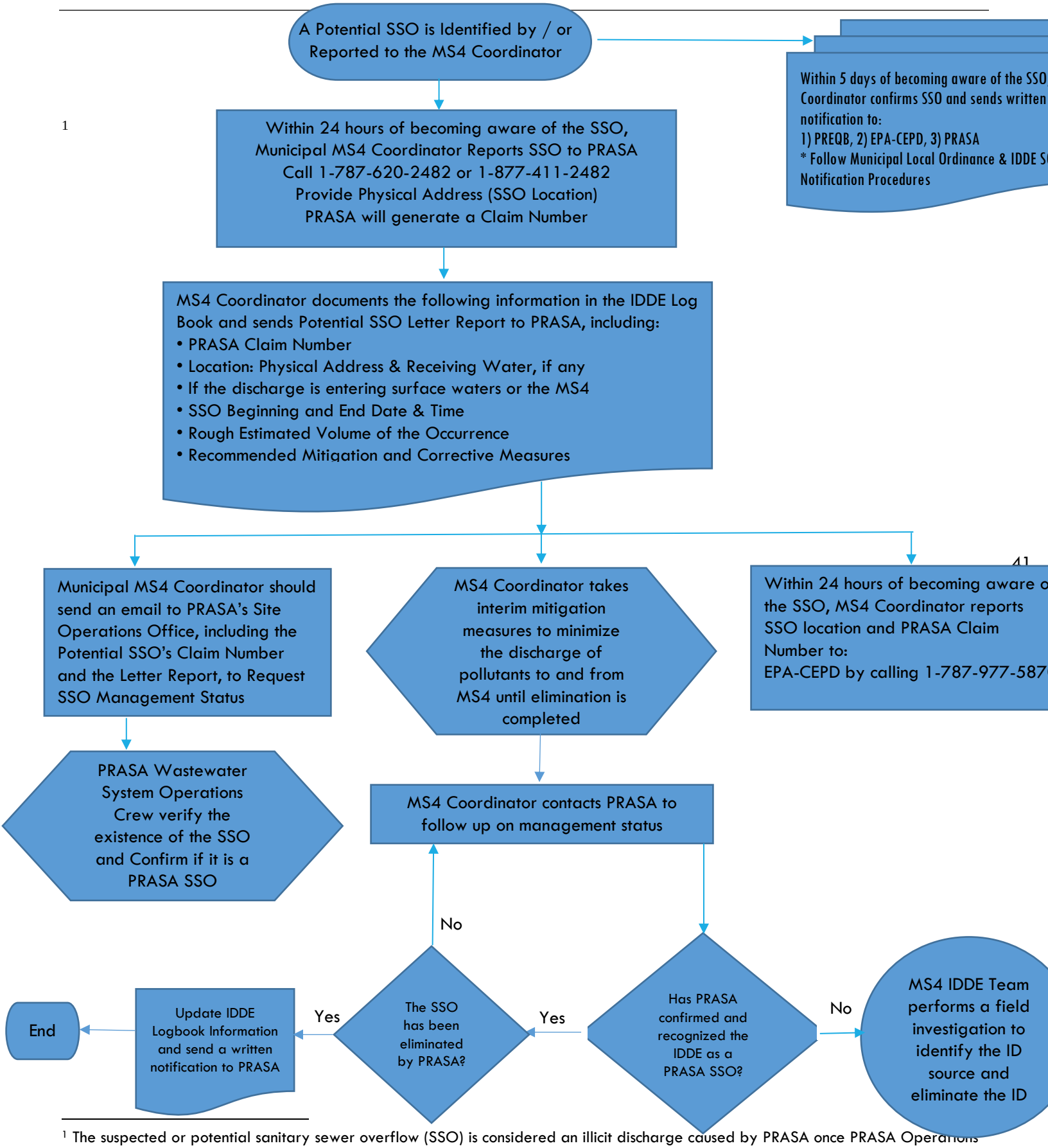


3. Stop #18 Stormwater FCPS Facility

Figure 3- Stop #18 FCPS Site Plan



ATTACHMENTS 2 *SSO MANAGEMENT PROCESS FLOWCHART*



[1] The suspected or potential sanitary sewer overflow (SSO) is considered an illicit discharge caused by PRASA once PRASA Operations Crew confirms its existence.

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