

**STORM WATER MANAGEMENT PROGRAM (SWMP)
UNIVERSITY OF PUERTO RICO
ARECIBO CAMPUS**

PREPARED FOR:

**UNIVERSITY OF PUERTO RICO
ARECIBO CAMPUS
ARECIBO, PUERTO RICO**

PREPARED BY:

**CARIBE ENVIRONMENTAL SERVICES
CAGUAS, PUERTO RICO**

CES PROJECT NO. 06-0054A

AUGUST 2007

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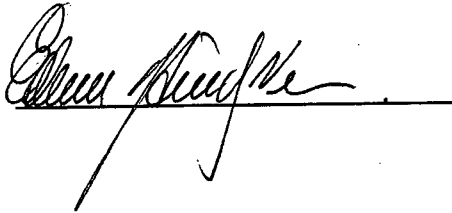
**STORM WATER MANAGEMENT PROGRAM CERTIFICATION
UNIVERSITY OF PUERTO RICO
ARECIBO CAMPUS
ARECIBO, PUERTO RICO**

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

Name: Edwin Hernández Vera

Position: Chancellor

Signed:



Date:

1/8/2007

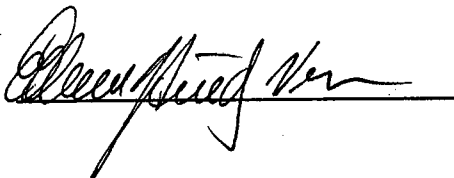
**SIGNATURE PAGE
UNIVERSITY OF PUERTO RICO
ARECIBO CAMPUS
ARECIBO, PUERTO RICO**

In accordance with Part 6.7.2 of the Small MS4 General Permit this report is signed by the following duly authorized representative of the UPR Arecibo Campus:

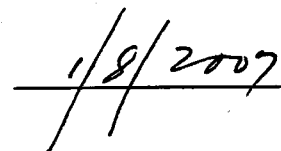
Name: Edwin Hernández Vera

Position: Chancellor

Signed:



Date:



1.0 INTRODUCTION

1.1 Regulatory Background

In 1990 the Environmental Protection Agency (EPA) promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) Storm Water Program. The Phase I program established storm water management requirements for medium and large operators of municipal separate storm sewer systems (MS4s). These systems generally serve populations of 100,000 or greater.

The Storm Water Phase II Rule extended coverage of the NPDES storm water program to certain "small" MS4s. However, the program took a slightly different approach to how the storm water management program will be developed and implemented for the small MS4s. The NPDES General Permit for Discharges from Small Municipal Separate Storm Sewers Systems became effective in Puerto Rico on November 6, 2006. The Permit No. is PRR040000. A copy of the Phase I NPDES Permit is included as *Appendix A* to this document.

The University of Puerto Rico Arecibo (UPRA) Campus operates a small MS4 system which is located within the Arecibo Urbanized area (UA) as defined by the EPA. On February 5, 2007 the UPRA Campus submitted to the EPA a Notice of Intent (NOI) to obtain coverage under the small MS4s General Permit. A copy of the NOI submitted by the UPRA Campus to the EPA is included as *Appendix B* to this document.

The Phase II Rule defines a small MS4 storm water management program (SWMP) as a program comprising six elements that, when properly implemented, are expected to result in significant reductions of potential pollutants discharged into receiving water bodies. The six program elements described in the permit as "minimum control measures" are:

- Development of a public education and outreach program on storm water impacts
- Development of a public involvement/participation program
- Development of an illicit discharge detection and elimination program
- Development of a construction site storm water runoff control program

- Development of a post-construction storm water management program for new developments and redevelopment
- Development of a pollution prevention and good housekeeping program

1.2 Objectives

The objectives of this SWMP are:

- To comply with the requirements of the Small MS4 General Permit applicable to Puerto Rico, Permit No. PRR04000.
- To describe the storm water management controls that the UPRA Campus will develop and implement to reduce the discharge of pollutants from the university small MS4 to the maximum extent practicable (MEP).

1.3 Site Description and Location

The UPRA Campus is located at the PR-653 Road, Km. 0.8, Las Dunas Sector Hato Abajo Ward in Arecibo, Puerto Rico. The UPRA Campus is located at the approximate coordinates of Latitude 18° 28' 11" and Longitude 66° 44' 30". The approximate location of the UPRA Campus is presented in *Figure 1*.

The UPRA Campus property covers an area of approximately 50 "cuerdas" on which several buildings covering a total area of approximately 340,000 square-feet (sf) are located. The UPRA Campus facilities include 78 class rooms, 18 laboratories for different educational subjects, parking areas, several sport facilities and associated infrastructure. A site sketch showing the main facilities within the UPRA Campus is presented in *Figure 2*.

The UPRA Campus is located in the northern part of Puerto Rico in an area of significant agricultural, industrial and economic development. The UPRA Campus is a superior education academic institution, designed to principally serve the north central Region of the Island. The University offers 34 academic programs with bachelor and associated

degrees and transfer programs. The main Departments and programs offered by the UPRA Campus include:

- Business administration
- Biology
- Mathematics
- Social Sciences
- Computer sciences
- Communications
- Education
- Nursery
- Human sciences
- Chemistry
- Physics
- Office Systems; and
- Engineering programs transfers

The UPRA Campus has an average annual student enrollment of approximately 4,000, faculty of approximately 260 faculty members and approximately 540 employees.

1.4 SWMP Work Group

In accordance with Part 4.1.1.3 of the General Permit the UPRA Campus has designated the personnel from the Health, Safety and Environmental Protection Office (HSEP) as the personnel responsible for the implementation and coordination of the Best Management Practices (BMPs). The HSEP representative for the SWMP will be Mrs. Elaine Santiago. However, implementation of the BMPs will require the participation of various UPRA Campus components that will be available for working with Mrs. Santiago. The following UPRA Campus components will be available to participate in the implementation of the SWMP:

*Storm Water Management Program
University of Puerto Rico
Arecibo Campus
Arecibo, Puerto Rico
CES Project No. 06-0054A*

- Administration Dean – Mrs. Elizabeth Cortés or his/her representative
- Academic Affairs Dean – Maiella Ramos, Ph.D. or his/her representative
- Director of Planning Office – Ana García Ph.D.
- Director of Physical Plant Services – Mr. Flor Serrano

2.0 SITE ASSESSMENT

To assess present storm water site conditions at the UPRA Campus, a site visual assessment was conducted by Mr. Raúl Colón of Caribe Environmental Services (CES) on June 12, 2007. Mr. Colón was accompanied during the site inspection by Mrs. Zulma González, Mrs. Santiago, Mr. Sammy Rivera (Maintenance Supervisor) and Mr. Flor Serrano (Physical Resources Supervisor). The objectives of the site visual inspection were:

- To prepare a preliminary layout of the storm water sewer system at the UPRA Campus.
- Identify potential sources of pollutants associated with the UPRA Campus activities
- Conduct a preliminary visual inspection of potential illegal discharges to the storm sewer system
- Conduct a visual evaluation of allowable non-storm water discharges to determine if the observed conditions would be considered a significant contributor of pollutants to the MS4.

2.1 Storm Water Sewer System Description

The UPRA Campus site is located on the top of a hill overlooking the Atlantic Ocean. The main building structures are located in property highest elevation area at the north central portion of the property. From the north central portion of the site the topography slopes down toward the north, east and south of the property. The UPRA Campus area has been graded to direct runoff toward the Campus's storm sewer system and/or curbs drains. Storm water runoff is controlled by a well-developed network of curb drains, catch basins and storm sewer pipes. Runoff from the UPRA Campus is discharged into drainage ditches unnamed creeks to the south and west of the property and into the PR-174 Road storm sewer system. Runoff from the north-western area of the Site drains toward a drainage ditch located at the north portion of the property and eventually reaches the Atlantic Ocean located approximately 400 meters north of the UPRA

Campus. The rest of the property drains toward the storm sewer systems located to the east and south of the property which discharge into the storm sewer system located along the PR-653 Road. Based upon the topographic conditions of the area the UPRA Campus assumes that the storm sewer along the PR-653 road eventually discharges into the Atlantic Ocean located to the north of the UPRA Campus.

A preliminary layout of the UPRA Campus storm sewer system as prepared using field observations made on June 12, 2007 is presented in **Figure 3**. We note that a detailed storm sewer system plan for the Campus is not available at present. The preparation of such plan is part of the proposed actions include in Section 4.0 of this document.

A brief description of the outfalls observed during the June 12, 2007 visual inspection is presented in **Table 1**. Please note that the detailed information included in **Table 2** was not available at the time the Notice of Intent (NOI) was submitted to the EPA on February 5, 2007. Therefore, the information included on **Table 1** updates and replaces the outfalls information included in the NOI. The information included in **Table 1** may change as the result of the preparation of the detailed site storm water system plan. If after completing the site's sewer system plan the number and/or location of the outfalls presented in **Table 1** change, the table will be corrected and replaced in the SWMP.

2.2 Potential Sources of Pollutants in Storm Water Discharges

Based upon the observations made during the June 12, 2007 site visual inspections several areas of potential storm water pollution were identified within the UPRA Campus premises. A list of those activities or source areas of potential pollutants is presented in **Table 2**.

The BMPs to address the pollutant sources/activities described in **Table 2** will be developed and implemented as described in Section 4.0 of this document.

2.3 Illicit Discharges Field Inspection

To assess potential illicit discharges into the storm sewer system a dry weather visual inspection of the storm sewer system of the UPRA Campus was conducted on June 12, 2007. The visual inspection consisted of the observation of the outfall locations and observation of storm sewer manholes and catch basins to determine if non-storm water discharges were present. At those locations where a non-storm water discharge was observed, the source of the discharge was investigated. If the non-storm water discharge was determined to be associated with an allowable non-storm water source no further action was required.

At those locations where the potential non-storm water source could not be defined during the site visit further investigation or activities will be proposed as part of the BMPs included in Section 4.0 of this program. Based upon the result of the illicit discharge evaluation conducted on June 12, the following areas of concern will be addressed in Section 4.0.

- Sinks draining into the ground
- Cafeteria floor wash waters
- Car wash activities
- Waters from painting accessories washing
- Cooling tower overflows
- Floor drains at the Machine Room

2.4 Evaluation of Allowable Non-Storm Water Discharges

Part 1.4 of the General Permit presents a list of non-storm water discharges that are authorized provided that these are not significant contributors of pollutants to the MS4. To assess the significance of discharges from the allowable non-storm water discharges, the UPRA Campus storm sewer system was visually evaluated during the June 12, 2007 site assessment. The objective of the evaluation was to determine if the observed

allowable non-storm water discharges would be considered as not significant contributors of pollutants to the MS4.

The results of the visual evaluation are presented in *Table 3*. As shown in *Table 3*, those allowable non-storm water discharges observed during the June 12, 2007 site inspection were judged by the UPRA Campus personnel to be not significant contributors of pollutants due to the small volume of flow from the sources and/or the unlikely content of contaminants of concern associated with the observed sources.

3.0 MINIMUM CONTROL MEASURES

According to Part 4.2 of the General Permit "Minimum Control Measures" is the term used by the EPA for the six MS4 program elements designed to achieve water quality improvements. The Final Rule specifies that a Phase II SWMP must include Best Management Practice (BMPs) for the following six minimum measures:

- Public Education and Outreach on Storm Water Impacts
- Public Involvement / Participation
- Illicit Discharge Detection and Elimination
- Construction Site Storm Water Runoff Control
- Post-Construction Storm Water Management in New Development and Redevelopment and;
- Pollution Prevention/Good Housekeeping

The goal of the SWMP is to reduce the potential discharge of pollutants and to identify activities or structural improvements that would assist reducing the quantity of potential pollutants and improve the quality of the storm water runoff. BMPs have been developed for the SWMP to reduce the discharge of pollutants to the storm drain system. BMPs include runoff controls, operating procedures, and practices to control site runoff, spills and leaks, sludge or waste disposal, or drainage from raw material storage. BMPs will be updated as appropriate to comply with any additions or changes to NPDES permit requirements.

The BMPs described in Section 4.0 will be implemented by the UPRA Campus personnel and outside contractors, if necessary. To be responsive to the need of controlling the discharge of pollutants into the surface water bodies surrounding the UPRA Campus, the UPRA Campus personnel has already initiated some of the BMPs listed in Section 4.0 of this SWMP. The SWMP documents these existing BMPs and outline implementation of additional BMPs. Full development and implementation of the BMPs included in Section 4.0 will be completed through the 5-year implementation plan.

4.0 DEVELOPMENT AND IMPLEMENTATION OF BEST MANAGEMENT PRACTICE (BMPs)

4.1 Public Education and Outreach on Storm Water Impacts

The objective of this minimum control measure is to educate the UPRA Campus community (students, faculty and staff) regarding the impacts of storm water discharges in water bodies and the steps that UPRA Campus community can take to reduce pollutants in the storm water runoff. It is expected that educational materials will be provided to the UPRA Campus community addressing runoff pollution and control practices. The proposed BMPs for this minimum control, the measurable goals and the expected implementation dates are included in *Table 4*.

4.2 Public Involvement/Participation

The goal of this minimum control measure is to promote active support from the UPRA Campus community for the SWMP and direction as to its implementation. Participation by the students, faculty, and staff will ensure the successful application of the program. The proposed BMPs for this minimum control, the measurable goals and the expected implementation dates are included in *Table 5*.

4.3 Illicit Discharge Detection and Elimination

The objective of this minimum control measure is to reduce pollutants in storm water runoff to receiving waters. It requires the development and implementation of a system to identify and eliminate sources of illicit discharge. The proposed BMPs for this minimum control, the measurable goals and the expected implementation dates are included in *Table 6*.

4.4 Construction Site Storm Water Runoff Control

The objective of this minimum control measure is to minimize the possibility that sediments and waste, at a construction sites within the UPRA Campus, to entering the storm water conveyance system. The proposed BMPs for this minimum control, the measurable goals and the expected implementation dates are included in *Table 7*.

4.5 Post-Construction Storm Water Management in New Development and Re-Development

The goal for this minimum control measure is to reduce the generation of non-point source pollution from urban runoff through planning and design, prior to development or re-development. Post-construction runoff control focuses on site and design considerations, which are most effective when addressed in the planning and design stages of project development. The objective of the program is to integrate basic and practical storm water management techniques into new development to protect water quality.

Post-construction storm water management controls include permanent structural and non-structural BMPs that remain in place after the project is completed. Projects subject to the new standards are new developments that create more than 1 acre of impervious surface and redevelopment projects that replace more than 1 acre of impervious surface (such as redevelopment on a surface parking lot). The proposed BMPs for this minimum control, the measurable goals and the expected implementation dates are included in *Table 8*.

4.6 Pollution Prevention/Good Housekeeping

The objective of this minimum control measure is to assure that the UPRA Campus facilities operations and maintenance activities occur in a manner protective of storm water quality. The proposed BMPs for this minimum control, the measurable goals and the expected implementation dates are included in *Table 9*.

5.0 RECORD KEEPING AND REPORTING

5.1 SWMP Review and Updating

In accordance with Part 4.4.1 of the Permit, the UPRA Campus will conduct an annual review of the SWMP in conjunction with the annual report described in Section 5.3 of this document.

The SWMP may be updated by the UPRA Campus in accordance with the following procedures:

- Changes adding (but not subtracting or replacing) components, controls or requirements to the SWMP may be made at any time upon written notification to the EPA. Those changes that involve the replacement or elimination of components, controls or pollution sources (including associated controls) must be notified to the EPA and approved by the EPA in advance.
- Changes replacing an ineffective or unfeasible BMP specifically identified in the SWMP, with an alternate BMP may be requested by the UPRA Campus at any time. If the request is not denied by the EPA, changes proposed in accordance with the criteria established on Part 4.4.2.2 of the permit shall be deemed approved and may be implemented 60 days from submittal of the request. If the request is denied the EPA will send a letter giving the reason of the decision.
- If requested by the EPA.

5.2 SWMP Availability

The UPRA Campus must retain a copy of the current SWMP available to EPA, a State or local agency approving storm water management plans and representatives of the Fish and Wildlife Services or the National Marine Fisheries Services at the time or upon request. Also the UPRA Campus must allow viewing or provide a copy of the SWMP to any one who makes such request in writing.

5.3 Record Keeping

The UPRA Campus must retain records of all monitoring information, copies of reports required by the permit, a copy of the NPDES permit and all records of all data used to complete the NOI application for the permit, for a period of 3 years from the date the sample, measurement, report or application or for the term of this permit, whichever is longer.

5.4 Reporting

The UPRA Campus must submit annual reports to the EPA each year of the permit term. The first report is due on November 6, 2007. The report must include the following:

- The status of the permittee compliance with the permit conditions
- An assessment of the appropriateness of the identified BMPs
- Progress toward achieving the statutory goal of reducing the discharge of pollutants to the MS4
- Measurable goals of each minimum control measure
- Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MS4.
- A summary of the storm water activities the permittee plan to undertake during the next reporting cycle (including an implementation schedule)
- Proposed changes to the SWMP, if any, including changes to any BMPs or any identified measurable goal that apply to the program elements; and
- Notice that the permittee is relying on another government entity to satisfy some of the permit obligations (if applicable).

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TABLES

**TABLE 1
OUTFALLS DESCRIPTION**

Outfall No. *	Description of Area Draining	Draining to
1	North central portion of the property, eastern portion of the site and portion of the southern property area	Storm sewer system on PR-653 Road
2	Portions of Track and field area, baseball park area and portions of the north western area of the property	Storm sewer system on PR-653 Road
3	Portion of the north and northwestern area of the property	Drainage ditch located to the north of the property.

Notes: * = for approximate location see Figure 3.

TABLE 2
POLLUTANT ACTIVITY/SOURCE

Activity/Source	Pollutant of Concern	Location
Sinks discharging onto the ground	Detergents, oil and grease, cleaning products	North Plaza de los Fundadores, at the Landscaping Storage Room, to the east of the South Wing Class Rooms, Graphics Art area
Food service operations	Wash water, food residues, oil and grease	Cafeteria area
Trash dumpsters	Organic material, non hazardous wastes	At several areas of the Campus. Dumpsters are provided with lid but are not closed when not in use.
Erosion	Sediments	Unpaved parking located to the west of the Hazardous Waste Storage area
Debris and Construction materials	Litter and debris	Surroundings of the Maintenance Building
Parking lot runoff	Litter, oil and grease	At several areas within the Campus
Construction activities	Trash, debris, sediments. wood, metals	At various areas where construction activities are conducted. Mainly construction material and debris stored in large sizes temporary dumpsters
Vehicle washing	Cleaning products, oil/grease	At parking between Nursing and Class Rooms South Wing
Equipment washing		Machine room
Painting	Paint or rinse water and area of paint storage outside	To the north of the Landscaping Storage area and inside the Maintenance area Building
Cooling Tower Overflow	Water treatment products	East of Cooling Tower
Potential Chemical spills	Diesel, paint, vehicle fluids	At several areas within the facility were these chemicals area stored
Floor Drains	Cleaning products, detergents, water treatment products, oil and grease	At the Machine Room

TABLE 3
ALLOWABLE NON-STORM WATER DISCHARGES EVALUATION

Non -Storm Water Discharge	Location	Estimated to be a Significant Contributor of Pollutants
Water line flushing	None observed	Not applicable (N/A)
Landscape irrigation	Manual irrigation as needed, not a significant practice.	NO
Diverted stream flows	None observed	N/A
Rising ground waters	None observed	N/A
Uncontaminated groundwater infiltration	None observed	N/A
Uncontaminated pumped ground water	None observed	N/A
Discharges from potable sources	Once a year the Cistern is emptied for cleaning. The cleaning water is used for cleaning of the parking areas and irrigation. According to the UPRA the water in the Cistern is not expected to contain significant amounts of pollutants of concern	NO
Foundation drains	None observed	N/A
Air conditioning condensation	At several areas within the Campus where A/C units are located. The flow observed from each unit was minimum.	NO
Irrigation water	Non observed	N/A
Springs	Non observed	N/A
Water from crawl space pumps	None observed	N/A
Footing drains	None observed	N/A
Lawn dewatering	None observed	N/A
Individual residential car washing	No individual residential car washing conducted at the University	N/A
Flows from riparian habitats or wetlands	None observed	N/A
De-chlorinated swimming pool discharges	During summer camp activities for kids some small swimming pools area used. The water to fill the pools is from PRASA and no chemicals are added.	NO
Street wash waters	Sporadic activity using only pressure washing	NO

Table 4
Public Education and Outreach on Storm Water Impacts

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.1.2	Collect brochures, fact sheets, and other educational materials from the EPA, the EQB or other MS4 web sites.	Much of the information related to impacts of runoff into water bodies is available in the web pages of these agencies. The UPRA will make use of any available information that will be helpful to convey the message	University staff will contact agencies to obtain educational materials. The University Storm water Management Program web page will be updated every six months to ensure that the most current information is available.	December 2007
Parts 4.2.1.2.1, 4.2.1.2.2 & 4.2.1.2.5	Distribute information to university employees, students, and faculty.	Develop storm water awareness brochures and posters. Post on website; distribute at campus environmental awareness events (such as the Dia del Planeta Tierra), to students, employees, and faculty. Post at selected areas within the university (ex: student center).	<ul style="list-style-type: none"> - University staff will update materials and include revised information in publications and meetings as they become available. Copies of the materials distributed and the number of individuals receiving the information will be documented. - Conduct awareness surveys on a yearly basis during the orientation week for new students and during the August registration process to assess knowledge of students regarding storm water pollution and control practices - Maintain statistics of awareness surveys 	December 2009
Parts 4.2.1.2.1, 4.2.1.2.3 & 4.2.1.2.5	Modify University web page for the Storm water Management Program.	Add storm water website page(s) to the UPRA website.	<ul style="list-style-type: none"> - University staff will update or work with a consultant to update the webpage as necessary. Copies of articles used, dates posted and internet link will be documented. - Number of website hits will be documented. 	June 2009

Table 4
Public Education and Outreach on Storm Water Impacts (Continued)

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Parts 4.2.1.2.1, 4.2.1.2.3 & 4.2.1.2.5	Add storm water pollution and prevention to weekly Radio programming	The UPRA has an informative Radio Program for the university community which is conducted every Friday from 5-6 pm at Radio Station 1120 AM. The University will add to the radio program short segments dealing with storm water pollution/prevention and the implementation of the SWMP.	Documentation of the information added to the Radio Program	June 2009
Parts 4.2.1.2.1, 4.2.1.2.2 & 4.2.1.2.5	Establish a library of educational materials on relevant storm water matters.	To centralize all the storm water information a central library is expected to be useful.	<ul style="list-style-type: none"> - University staff will collect materials and place the materials in public areas on campus, student center and in the University Library as needed. - University staff will update these materials as needed and redistribute. - Document the number of material distributed 	June 2009
Part 4.2.1.2.3	Incorporate university and student organizations into the program	It is expected that university components such as the Chemistry Students Association, American Chemist Association, the Social Sciences Department, the student counsel, other Departments and other students organizations can be incorporated to the program	List the number of University programs and student organizations incorporated.	June 2010
Part 4.2.1.2.1, 4.2.1.2.3 & 4.2.1.2.5	Evaluate the possibility of incorporating the topic of storm water pollution control to existing environmental courses offered at the UPRA.	It is expected that the topic of storm water pollution control be a natural subject to be discussed in selected academic courses	Number of courses where the topic is made part of.	August 2010

Table 4 (continued)
Public Education and Outreach on Storm Water Impacts: Additional Information

Permit Condition	
<i>Parts 4.2.1.2.1 & 4.2.1.2.3</i>	The University consists of approximately 4,800 people (4,000 students and 800 faculty and staff). An education and outreach program will be created and presented to the students, staff and faculty. These people will be made aware of the hazards and costs of improper disposal of chemicals and products such as, but not limited to, motor oil, paints, solvents, pesticides, litter and raw sewage.
<i>Parts 4.2.1.2.2 & 4.2.1.2.5</i>	Public education and outreach will be conducted by a variety of methods that may include distribution of brochures and posters, conferences, seminars, educational courses. Members of the University staff and/or students, as appropriate, will conduct meetings or deliver materials. The University counts with an in-house printing office, a graphics department, a TV/Radio Communications Department as well as with electronic media capabilities including an Office of Information Systems that will be used as needed for the development of the necessary educational materials.
<i>Part 4.2.1.2.2</i>	A Storm Water Management Program link will be added to the existing UPRA University website. The webpage will address relevant storm water topics.
<i>Part 4.2.1.2.5</i>	Documents related to the SWMP and NOI will be made available on file at University.
<i>Part 4.2.1.2.6</i>	The SWMP Work Group described in Section 1.4 of the program will have ultimate responsibility for implementing and coordinating the education activities. They may delegate this authority to other University staff.
<i>Part 4.2.1.2.7</i>	A list of measurable goals and dates scheduled to begin activities and to achieve the goals are specified in the first part of this table.

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Table 5
Public Involvement / Participation

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.2.2	SWMP review by university community. Post SWMP in the web site and request comments from the university community	Even though, consultation of the university community during the preparation of the SWMP was not possible due to the tight schedule for its preparation, the UPRA will incorporate any applicable comment received into a revised SWMP.	Number of comments received	June 2009
Parts 4.2.2.2.2 & 4.2.2.2.4	Create activities for students, faculty, and staff to clean up campus.	<ul style="list-style-type: none"> - Annual campus clean-up possibly during the celebration of the Dia del Planeta Tierra. - Incorporate the topic of storm water pollution/prevention in activities such as the "Feria de Calidad de Vida", the National Chemistry Week and the "Dia del Planeta Tierra". 	<p>University staff will encourage students and staff to participate in activities such as the Campus clean-up day at least once per year. The recommended cleanup activities; methods for engaging students, faculty and staff; and dates of program activities will be documented.</p> <ul style="list-style-type: none"> - List of activities where the storm water pollution/prevention topic is was included 	December 2009
Parts 4.2.2.2.2 & 4.2.2.2.3	Involve student's organizations such as the Student Counsel, Department of social sciences, Natural Sciences Department and the Engineering Department to participate in the Program implementation.	The success of the program will be guaranteed based upon the number of people in the university that gets involved	Number of student organizations and University components involved.	June 2010
Part 4.2.2.2.3	Respond to verbal or written inquiries, comments, or concerns about illicit disposal of wastes, etc., and/or requests for information.	<ul style="list-style-type: none"> - The University already has a process to manage verbal or written inquiries at the Dean or Department level. Each Dean or Department will identify a principal contact and devise the best method for handling the inquiries. - The University contact will review the information and determine the best response. Response may be given over the phone, email or regular mail. The information will be referred to Mrs. Santiago for follow-up. 	The number of comments received and action taken will be documented.	As needed
Part 4.2.2.2.4	Make the SWMP and Notice of Intent available to students and employees on campus.	The SWMP and Notice of Intent will be made available to the university community through campus publications and on the Storm water webpage upon completion.	The date of publication and proof of establishment of the website will be documented.	June 2009

Table 5 (continued)
Public Involvement / participation: Additional Information

Permit Condition	
<i>Part 4.2.2.2.2</i>	The University has the capability and procedures for making students, faculty and employees aware of involvement and participation opportunities within the campus. These opportunities will be published in posted notices throughout campus, newspapers, and/or listed on the University webpage. Generally, the meetings are open to students and University employees to voice comments on the proceedings. All relevant comments will be considered. In some instances, students and employees are invited to apply to a committee or commission so that their ideas and voices can be provided to the elected officials. Interested applicants may apply in writing or via electronic applications. Applicants are interviewed by appropriate University staff and selected based on specific criteria.
<i>Parts 4.2.2.2.3 & 4.2.2.2.4</i>	The University will provide opportunities for students, faculty, and staff involvement through programs such as, the Campus Clean-up day and the Dia del Planeta Tierra and possible activities associated with the "Feria de Calidad de Vida" and the National Chemistry Week..
<i>Part 4.2.2.2.4</i>	The University website will have a contact/comment option. The extent of review and response will be determined by the volume and subject matter of comments. The methods to handle comments will be developed as described in measurable goals above.
<i>Part 4.2.2.2.4</i>	Notices of meetings and important documents (SWMP, NOI) will be available on the University website
<i>Part 4.2.2.2.6.</i>	A list of measurable goals and dates scheduled to begin activities and to achieve the goals are specified in first portion of this table.
<i>Part 4.2.2.2.5</i>	The SWMP Work Group described in Section 1.4 of the program will have ultimate responsibility for implementing and coordinating the education activities. They may delegate this authority to other University staff.

Table 6
Illicit Discharge Detention and Elimination

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.3.2.5	Encourage cleaning of University parking areas.	Prior to the commencement of the hurricane season in Puerto Rico the University staff will encourage people to clean impervious areas for reducing potential pollutants to the storm water. The education program presented in Table 4 will include education to those utilizing parking lots to dispose of trash appropriately.	Document the methods used to notify individuals, number of people contacted and benefits provided.	June 2009
Parts 4.2.3.1.2. & 4.2.3.2.1	Figure 3 of the SWMP presents a preliminary layout of the storm sewer system at the UPRA and presents the approximate location of outfalls and location of waters of the United States. However, the information included in Figure 3 is preliminary and the information in this figure needs to be verified and prepared in detail.	The UPRA will contact a PR Licensed Surveyor or Engineering firm for the preparation of a site survey map showing the location and physical characteristics of the storm sewers, the location of outfalls, location of manholes and storm drains, and the topographic data applicable.	Detailed survey plan	December 2009
Parts 4.2.3.1.3 & 4.2.3.2.2	Preparation of a "Carta Circular" by the Chancellor to prohibit illicit discharges into the MS4 which will include but not be limited to vehicle washing wash waters, cafeteria floor wash waters, cooling tower overflows, floor drains, draining of sinks, washing of paint accessories, etc.	The "Carta Circular" has been determined to be the most effective and expeditious way to prohibit the illicit discharges.	Preparation of the "Carta Circular" and documentation of its distribution	December 2007
Parts 4.2.3.1.3 & 4.2.3.2.3	Enforcement action will be taken on those who violate the Policy in accordance with the University's policy enforcement code.		The number of incidents recorded and actions taken will be documented.	December 2009

Table 6 (continued)
Illicit Discharge Detention and Elimination (Continued)

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.3.2.4.3	Elimination or connection to the sanitary sewer system of sinks at the North Plaza de los Fundadores, at the Landscaping Storage Room, to the east of the South Wing Class Rooms, Graphics Art area and wash waters from the Cafeteria area to the sanitary system.	These sinks and cafeteria wash waters were observed discharging into the surface	Documentation of connection to sanitary system	June 2009
Part 4.2.3.2.4.2	Testing of floor drains at Machine Room to determine possible connection to storm sewer	Testing may include dye and connectivity testing.	Documentation of test performed	June 2009
Part 4.2.3.2.4.3	If floor drains are found to discharge into the storm sewer, disconnect and connect to the sanitary sewer system	The UPRA will contact an engineering design firm to design the necessary changes and then contractor to connect the floor drains to the sanitary sewer line or to eliminate them.	Documentation of repair	June 2010
Part 4.2.3.2.4.3	Disconnection of cooling tower overflow to storm sewer and connection to sanitary system	The UPRA will contact an engineering design firm to design the necessary changes and then a contractor to connect the overflow to the sanitary sewer line or to eliminate connection		June 2010
Parts 4.2.3.1.4 & 4.2.3.2.4	Visual inspection of outfalls during dry weather	An annual visual monitoring plan will be developed and the UPRA staff will conduct visual inspections of outfalls in accordance with the plan. Illicit discharges (IDs), if any, will be reported to SWMP Work Group. A checklist will be developed for monitoring personnel to ensure consistent data is collected.	Number of IDs identified and record of inspections conducted	June 2009
Parts 4.2.3.2.4, 4.2.3.2.4.1 & 4.2.3.2.4.2	For suspect areas identified during the visual inspections the UPRA will implement one or more of the following testing methodologies: connectivity tests, dye testing, smoke surveys and/or video surveys	Based upon the testing results priority areas will be identified for locations where specific corrective measures are necessary	Documentation of identified priority areas	Contingent upon visual inspections.

Table 6 (continued)
Illicit Discharge Detention and Elimination (Continued)

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.3.2.4.3.	Removal of source of illicit discharge	The UPRA will contact an engineering design firm to design the necessary changes and then a contractor to implement the necessary remedial action	Documentation of repair	Contingent upon testing results
Part 4.2.3.2.5	The University will train employees in the detection, prevention, and identification of illicit discharges.	Training will be conducted at least once a year	Documentation of training provided.	December 2009
Part. 4.2.3.2.5	Notify University students, employees, and faculty of the hazards and costs of illicit discharges and improper disposal of waste through seminars and/or published and distributed information.	University staff will notify the people responsible in the identified areas of the forthcoming "Carta Circular" that prohibits illicit discharges.	Documentation of notifications	December 2010

Table 6 (continued)
Illicit Discharge Detention and Elimination: Additional Information

Permit Condition	
Part 4.2.3.2.4	The UPRA will utilize dry weather field screening by students and/or University staff and other periodic inspections/screening by University staff to identify illicit discharges.
Part 4.2.3.1.6.	The UPRA considers the discharges listed in this Part and Part 1.4. of the permit to be allowable non-storm water discharges. These discharges will be allowed by the MS4 Permit unless the University identifies them as a significant contributor of pollutants to the MS4.
Part 4.2.3.1.7	The UPRA considers non-commercial or charitable events such as charity car washes to be insignificant contributors of pollutants and therefore, these discharges are not prohibited.
Part 4.2.3.2.5.	The UPRA will hold a training course for appropriate University employees that may involve class and field work. The University also will inform the staff about the proper channels for relaying information about illicit discharges.
Part 4.2.3.2.5	The UPRA will place information about prohibited discharges on the University website, distribute information brochures in key areas of campus, and in on-campus publications.
Part 4.2.3.2.7.	A list of measurable goals and dates scheduled to begin activities and to achieve the goals are specified in the first part of Table 6.
Part 4.2.3.2.6	The SWMP Work Group described in Section 1.4 of the program will have ultimate responsibility for implementing and coordinating the education activities. They may delegate this authority to other University staff.

Table 7
Construction Site Storm water Runoff Control

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
<i>Parts 4.2.4.1.1, 4.2.4.1.2.; 4.2.4.2.1& 4.2.4.2.2</i>	Develop a "Carta Circular" with a list of requirements for contractors working at the UPRA Campus requesting compliance with the NPDES permit for construction activities and with the "Control de Erosion and Sedimentation" Regulation of the Environmental Quality Board. Both of these regulations include BMP's for erosion and sediment control on the construction site prior to beginning construction. This requirement will be for construction project covering one or more acres, as well as sites less than 1 acre that are a part of a larger development.	Since the major construction projects at the university are developed and funded by the Central Administration the UPRA will submit the list of requirements for new construction during the design phase of the project.	Documentation of the submittal of "Carta Circular" to the Central Administration	December 2009
<i>Parts 4.2.4.1.3 & 4.2.4.2.3</i>	The UPRA will develop a "Carta Circular" for the prohibition of the discharge or disposal of the following wastes during a construction project: discarded building materials, concrete truck washout, chemicals, litter, and sanitary wastes.	Since the major construction projects at the university are developed and funded by the Central Administration the UPRA will submit the list of requirements for new construction during the design phase of the project.	Documentation of the submittal of the "Carta Circular" to the Central Administration	December 2009
<i>Parts 4.2.4.1.5 & 4.2.4.2.6</i>	Enforcement action will be taken on those who violate the UPRA requirements	Enforcement will be executed through the inspector assigned to the project by the Central Administration. The UPRA will make sure that the contract documents provide enforcement actions for violations with the storm water prevention requirements.	Number of violations addressed.	December 2009

Table 7 (continued)
Construction Site Storm water Runoff Control (Continued)

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
<i>Pars 4.2.4.1.4 & 4.2.4.2.4</i>	The UPRA staff will review the SWPPP and CES Plans prepared by the contractor.	The UPRA will meet with the Central Administration Inspector to discuss the elements included in the SWPPP and CES Plan and to discuss enforcement actions.	Documentation of the meetings conducted with the Central Administration Inspector	December 2009
<i>Part 4.2.4.2.3.</i>	Development of "Carta Circular" prohibiting the discharge of: discarded building materials, concrete truck washout, chemicals, litter, and sanitary wastes by any construction contractor retained by the UPRA for any construction project.	Even for project less than an acre and those that may not require significant earth movement activities, the UPRA will control the potential discharge of pollutants from these projects.	Copy of "Carta Circular"	June 2009

Table 7
Construction Site Storm water Runoff Control: Additional Information

Permit Condition	
<i>Part 4.2.4.2.5</i>	BMP's for <i>Public Information and Outreach on Storm water Impacts</i> and for <i>Public Involvement/Participation will</i> address methods by which the students, staff, and faculty can report on construction site activities to the UPRA SWMP Work Group.
<i>Part 4.2.4.2.8</i>	A list of measurable goals and dates scheduled to begin activities and to achieve the goals are specified in the first part of Table 7.
<i>Part 4.2.4.2.7</i>	The SWMP Work Group described in Section 1.4 of the program will have ultimate responsibility for implementing and coordinating the education activities. They may delegate this authority to other University staff.

Table 8
Post-Construction Storm Water Management in New Development and Re-Development

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Parts 4.2.5.1.2, 4.2.5.2.1 & 4.2.5.2.3	The UPRA has prepared a site development strategic plan named "Marco de Desarrollo Fisico 2006-2014" (the Strategic Plan) that includes the proposed construction projects for the next several years. The Strategic Plan will be reviewed to determine if non-structural BMPS such as the protection of sensitive areas (ie: surface water bodies, forest), minimization of impervious area, and minimization of soils and vegetation disturbances can be incorporated in the Plan.	The development plans for the UPRA as layout in the University Strategic Plan will be revisited to consider potential impacts to storm water management	Documentation of modifications, if any , made to the Strategic Plan	June 2012
Parts 4.2.5.1.2, 4.2.5.2.1 & 4.2.5.2.4	The UPRA has prepared a site development Strategic Plan named Marco de Desarrollo Fisico 2006-2014", that includes the proposed construction projects for the next several years. The Strategic Plan will be reviewed to determine the feasibility of incorporating into the new construction projects structural BMPS such as the installation of runoff detention ponds and filtration practices such as grassed swales.	The development plans for the UPRA as layout in the University Strategic Plan will be revisited to consider potential impacts to storm water management	Documentation of modifications, if any , made to the Strategic Plan	June 2012
Parts 4.2.5.2.5 & 4.2.5.1.3	The UPRA will develop a "Carta Circular" to require the consideration of post-construction runoff for new developments and redevelopments.	The "Carta Circular" is the most effective and expeditious mechanism available at the University to assure this issue is addressed.	Copy of Carta Circular	June 2009

Table 8 (continued)
Post-Construction Storm Water Management in New Development and Re-Development: Additional Information

Permit Condition	
Part 4.2.5.2.6	BMP's for <i>Public Information and Outreach on Storm water Impacts</i> and for <i>Public Involvement/Participation</i> address methods by which contractors, developers, architects and the general public will learn about project designs that minimize water quality impacts. The University Webpage will also include information about the Post construction storm water management policy for new developments and re-development projects.
Part 4.2.5.2.8	A list of measurable goals and dates scheduled to begin activities and to achieve the goals are included in the first part of Table 9.
Part 4.2.5.2.7	The SWMP Work Group described in Section 1.4 of the program will have ultimate responsibility for implementing and coordinating the education activities. They may delegate this authority to other University staff.

Table 9
Pollution Prevention/Good Housekeeping

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.6.1.2.	Develop a training program for the University Staff in charge of maintenance activities.	The program should be conducted at least once a year and should cover topics such as: storm water pollution prevention, good housekeeping practices, illicit discharges, pollution preventive measures, materials management, inspection requirements, visual inspection procedures	Documentation of annual training provided and list of trained personnel	June 2010
Parts 4.2.6.2.3.1 & 4.2.6.2.3.2	Development of a Good Housekeeping program (see Appendix C for example of good house keeping procedures)	A good house keeping program will be developed to provide controls for reducing flotables and other pollutants, The program should include addressing the reduction of pollutants from streets, roads, parking lots, maintenance and storage area, dumpsters areas,etc.	Copy of the Good House Keeping Program	June 2009
Part 4.2.6.2.3.1	Conduct Routine site inspections	At least once a month the UPRA staff will conduct a routine inspection of the University facility to identify potential sources of storm water pollution. The inspection should give special attention to the following areas: parking lots, cafeteria area, trash dumpsters, construction activities, storage of glycol drums, diesel storage tanks		June 2008
Part 4.2.6.2.3.2	Removal of sedimentation accumulated at the concrete channel surrounding the Chemical and Hazardous Waste Storage Area.	This channel is acting like a sedimentation trap for sediments from the unpaved parking to the west.	Documentation of sediment removal	December 2007

Table 9 (continued)
Pollution Prevention/Good Housekeeping

Permit Condition	BMP's	Implementation Rationale	Measurable Goal(s)	Target Date for Achievement / Implementation
Part 4.2.6.2.3.2	Pavement of temporary parking located to the west of the Chemicals and Hazardous Waste Storage Area	Meanwhile this parking is maintained unpaved it may be potential source of sediments.	Documentation of pavement activities	June 2010
Part 4.2.6.2.3.2	Construct a new containment area for the storage of Cafeteria used oil drums.	The existing area although covered doe not provide an adequate containment to prevent spill outside the storage area	Documentation of containment construction.	June 2010
Part 4.2.6.2.3.2	Develop procedure for maintaining all chemical materials including paints and discarded paint containers stored in a covered area provided with containment system	Presently some of these containers are stored exposed to storm water.	Documentation of the procedure developed.	December 2008
Part 4.2.6.2.3.2	Develop a storm drain maintenance and cleaning program	Cleaning should be as needed following rainfall events	Number of drains cleaned	December 2009
Part 4.2.6.2.3.3	The UPRA will use existing waste disposal services to remove waste. Flotables and other debris collected on site and as part of drainage clean-up efforts will be taken to dumpsters that are served by the University's waste disposal services.		The amount of wastes generated will be documented	December 2009

Table 9 (continued)
 Pollution Prevention/Good Housekeeping: Additional Information

Permit Condition	
Part 4.2.6.2.1	<p>The following UPRA Campus elements will be mainly impacted by the operation and maintenance program:</p> <ul style="list-style-type: none"> - University Parking areas - Physical Plant facilities - Machine room - Cafeteria - Trash collection areas - Cooling tower area - Diesel storage above ground tanks - Construction activities
Part 4.2.6.2.5	A list of measurable goals and dates scheduled to begin activities and to achieve the goals are listed in the first part of Table 9
Part 4.2.6.2.4	The SWMP Work Group described in Section 1.4 of the program will have ultimate responsibility for implementing and coordinating the education activities. They may delegate this authority to other University staff.