



U.S. Environmental Protection Agency- Region II
Caribbean Environmental Protection Division
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National Pollutant Discharge Elimination System (NPDES) Phase
II, Regulated Small Municipal Separate Storm Sewer System
(MS4's)

Permit Application
Notice of Intent (NOI)



Quebradillas Municipality
P.O. Box 1544
Quebradillas, Puerto Rico 00678-1544
Telephone: (787) 895-2840

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Appendix A- Waste Recollection and Management Contractual Agreement

1. NPDES (Notice of Intent) Permit Application

1.1. Background

In 1972, Congress amended the Federal Water Pollution Control Act, commonly referred as the Clean Water Act (CWA) to prohibit the discharge of any pollutant to waters of the United States from point sources unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. Initial efforts under the NPDES program focused on reducing pollutants in discharges of industrial process wastewaters and municipal sewage. As pollution control measures have been implemented, it has become evident that diffuse sources or non-point sources are also contributors of water quality degradation. In 1990, the US Environmental Protection Agency (EPA) promulgated rules that establish the Phase I of the NPDES storm water program. The Phase I program for Municipal Separate Storm Sewer System (MS4's) requires operators of medium and large MS4's (operators that generally serve populations of 100,000 or greater) to implement a Storm Water Management Program (SWMP) as a mean to control polluted discharges.

In 1999 the EPA promulgate rule establishing Phase II Rule. The Storm water Phase II is one of the Environmental Protection Agency efforts to preserve, protect, and improve the Nation's water resources from polluted storm water runoff. The Phase II program expands the Phase I program by requiring additional operators of MS4's in urbanized areas and operators of small construction sites, through the use of NPDES permits, to implement programs and practices to control polluted storm water runoff.

As outlined in these regulations the urbanized areas of the Municipality of Quebradillas, as the city itself, are required to submit an application for the permit coverage.

In order to assure that the quality of storm water discharges from our municipal storm sewer system is managed to the maximum extent practicable, Quebradillas has developed and is in the process of implementing a SWMP that includes the best management practices (BMP's) based on the six minimum control measures (MCM) as required by the NPDES permit for the MS4's.

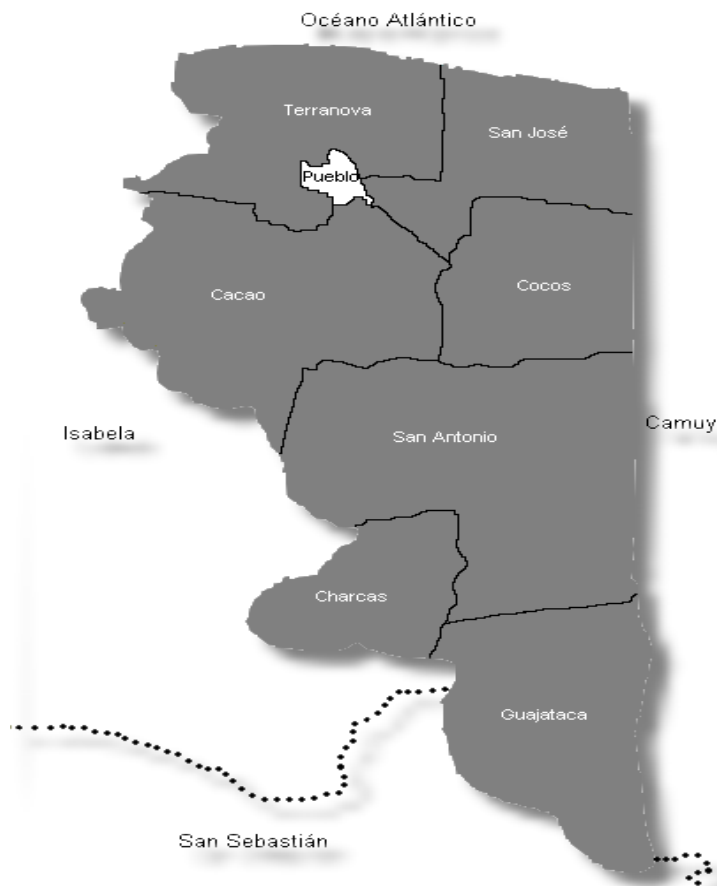
1.2. Quebradillas Storm Water Sewer System

The Municipality of Quebradillas has a territorial extension of 23.05 square miles (mi²). According to the 2000 Census, has a population of 25,450 habitants (hab) with a population density of 1,104.40 hab./mi². Located in the North Coast of Puerto Rico, Quebradillas lies by North with the Atlantic Ocean, with San Sebastián Municipality by South, Camuy Municipality by East, and Isabela by West. It is compound of 8 wards, subdivided into different sectors.

Table 1: Population of Quebradillas by Ward according to the 2000 Census

| | |
|---------------------|---------------|
| Cacao | 5,819 |
| Charcas | 403 |
| Cocos | 4,569 |
| Guajataca | 1,622 |
| Quebradillas Pueblo | 1,402 |
| San Antonio | 5,262 |
| San José | 2,532 |
| Terranova | 3,841 |
| Total | 25,450 |

Figure 1: Municipality of Quebradillas



Quebradillas belongs to the Northwest Plateau, but the southern territory (districts Guajataca, Charcas and part of San Antonio) shows the topographical and climatic characteristics of the humid region of northern hills, where the height above sea level fluctuates between 200 and 500 meters (656 and 1,640 feet). This municipality is also located in the karst region, reason to count with an accidental geography that includes; hummocks, sinks, and caves, among others.

Of its total territorial extension the Quebradillas count with 11.66 mi² of water bodies, deriving its name based on the numerous water streams that possess. However, the most important water bodies of Municipality are the Guajataca River at west, and the

Guajataca Lake at south. Guajataca River has a length of approximately 25.5 miles (41 kilometers) with its origin in the municipality of Lares, Puerto Rico at an altitude of approximately 1,600 feet (488 meters) above sea level. It crosses the municipalities of Lares, San Sebastián, and Isabela forming Guajataca Lake on its path. This artificial lake was created in 1929, in order to provide water to the inhabitants of northwestern Puerto Rico. It is also the location of Camp Guajataca, the island's main camping grounds of the Boy Scouts of America. The lake area is 10 degrees cooler than the rest of the island and provides year round recreational opportunities and outdoor activities including fishing for bass, tilapia and catfish, kayaking, nature watching and relaxing in general. The Guajataca Dam, on the Guajataca River, owned by Electrical Energy Authority (PREPA), is used for irrigation and drinking water purposes. It has a normal surface area of 1.6 square miles, and its length is 908 feet with a maximum discharge of 28,954 cubic feet (ft³) per second and a 46,655 acre feet capacity. Its normal storage capacity is 30,055 acre feet, and a draining area of 31 mi².

The Municipality of Quebradillas operates a municipal separate storm water sewer system which includes the 8 wards within the municipal territorial boundaries. Although the Sewer System extends throughout all municipal territory, the MS4 permit will focus on the 6 wards that are located within the urbanized areas. These include the wards of Terranova, San José, Cocos, Cacao, Quebradillas town, and part of San Antonio. The Quebradillas MS4 is interconnected with the Puerto Rico Department of Transportation and Public Works.

1.3. Activities subject to NPDES Permit Applicability

The Municipality of Quebradillas operates a municipal separate storm water sewer system located within the territorial boundaries of Quebradillas, Puerto Rico.

1.4. Name, Mailing Address, and Location of Facility for which the application is submitted

Municipality of Quebradillas
P.O. Box 1544
Quebradillas, Puerto Rico 00678-1544
Telephone: (787) 895-2840

1.4.1. NPDES (MS4) Program Point of Contact

Attn: Efraín Cancel
Municipal Management and Development Secretary
P.O. Box 1544
Quebradillas, Puerto Rico 00678-1544
Telephone: (787) 895-1070
Fax. (787) 895-7924

1.5. Standard Industrial Classification (SIC) Code

The SIC code established by the Federal Office of Management and Budget for public administration/ general Federal for the Municipality of Quebradillas is 9199.

1.6. Operator name, address, telephone number, ownership status and status as Federal, State, local, tribal or other public entity.

Municipality of Quebradillas
Hon. Heriberto Vélez Vélez
P.O. Box 1544
Quebradilla, Puerto Rico 00678-1544
Telephone: (787) 895-1070
Fax. (787) 895-7415

1.7. Permits or Construction Approvals

In Puerto Rico the environmental permitting programs are administered by federal and state agencies. The Puerto Rico Environmental Quality Board posses the administration of the Underground Injection Control under the Safe Drinking Water Act. It is also in charge of the administration of the Prevention of Significant Deterioration Program under the Clean Air Act, the National Emission Standards for Hazardous Air Pollutants, and jointly with the Region 2 of the U. S Environmental Protection Agency (EPA) is in charge of the Resource Conservation and Recovery Act (RCRA) Program. On the other hand, EPA is charge of the NPDES Permit Program. Ocean Dumping
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Permits under the Marine Protection Research and Sanctuaries Act are administered by the Natural Resources and Environmental Department in combination with the US Corps of Engineers (USACE), as well as the dredge or fill permits under section 404 of the Clean Water Act. Other relevant environmental permit includes Fish and Wildlife Services Agency, concerning the Endangered Species Act, and the Puerto Rico Health Department which is in charge of the Safe Drinking Water Act.

Construction permits are regulated by the Commonwealth of Puerto Rico Permits and Regulations Administration (ARPE by its Spanish acronym), and the Puerto Rico Planning Board.

1.7.1. Resource Conservation and Recovery Act permits

None issued.

1.7.2. Waste Recollection and Management permits

See Appendix A for contractual agreement

1.7.3. Underground Injection Control (UIC) under Safe Drinking Water Act

The municipality of Quebradillas des not operates facilities subject to UIC permit.

1.7.4. NPDES Program under the Clean Water Act

The municipality of Quebradillas is in the development of the Storm Water Management Program (SWMP) in order to submit and obtain the National Pollutant Discharge Elimination System (NPDES) Phase II permit. The Quebradillas MS4 is interconnected with the Puerto Rico Department of Transportation and Public Works (DTOP), and the Aqueduct and Sewer Authority (PRASA) storm sewer systems.

1.7.5. Nonattainment Program under the Clean Air Act

Quebradillas is located within an attainment area

1.7.6. National Emission Standards for Hazardous Air Pollutants

None issued.

1.7.7. Ocean Dumping Permits under the Marine Protection Research and Sanctuaries Act

None issued.

1.7.8. Dredge or fill permits under Section 404 of the Clean Water Act

None issued.

1.7.9. Puerto Rico Environmental Quality Board

Asphalt Project

Aquatic park construction at Bo. Terranova

Liberty Theater Improvements at Bo. Terranova

New Bridge Construction Parallel to the White Bridge

Home Rehabilitation

Permit copies are available at the Town Hall of Quebradillas

1.7.10. Puerto Rico Aqueduct and Sewer Authority

Aquatic park construction at Bo. Terranova

1.7.11. Natural Resources and Environmental Department

Aquatic park construction at Bo. Terranova

New Bridge Construction Parallel to the White Bridge

1.7.12. Fish and Wildlife Services under the Endangered Species Act

Minigolf Park Construction at Bo. Terranova

1.8. Storm Water Sewer Map

At the moment the Quebradillas municipality does not have a storm sewer map. As part of the implementation of the SWMP program is the intention of the Municipality to develop a map that will contain the intakes and discharges structures of the storm sewer system. It will also localize any waste, storage or disposal facilities, wells, and water receiving bodies among others.

1.9. Description of the Municipal Storm Water Sewer System (MSWSS)

The Quebradillas rural SWSS in general consist of a series of interconnected open channel culverts, parallel to municipal and state roads with catch basins, located within the right side of municipal and state roads. These are interconnected by underground concrete, PVC or steel pipes which normally discharge into a surface water body, mostly the Atlantic Ocean. The municipal system is interconnected with the storm sewer system operated and maintained by the Puerto Rico Department of Transportation and Public Works (DTOP, by its Spanish acronym), and to the permitted NPDES facilities within the Quebradillas territory.

The Quebradillas Public Works Department (QPWD) is responsible for the operation, maintenance and implementation of the cleaning activities of the MSWSS. It will be also the responsible of the upgrade program to be implemented as part of the MS4's permitting program. The QPWD offer services such as open channel and catch basin cleaning, street sweeping, maintenance and development of road side vegetation, within other related services. At present the Quebradillas trash recollecting activities are carried by a private company with the respective permits to operate, and is in charge of the transportation, maintenance and operation of the recycling and trash dumping sites cleaning for the municipality. Copies of the contracts are submitted as part of the appendix A.

As the Municipality of Quebradillas implements the Proposed SWMP, a more accurate description of the MS4 system can be provided.

1.10. Estimated Square Mileage Served by the MS4's

As the Municipality of Quebradillas implements the Proposed SWMP, an accurate estimate dimension of the MS4 system can be provided, but by now, the estimated square mileage (mi²) served by the Quebradillas MS4 system is 19 mi².

1.11. Proposed Storm Water Management Plan(SWMP)

In order to meet the public and regulatory responsibilities, the Quebradillas Municipality is in the process of development and implementation of a Storm Water Management Plan (SWMP) to assist the Municipality in the maintenance and improvement of the storm water system and water runoff quality. In accordance with the NPDES Phase II Rule, the Municipality proposes a plan to ensure the storm water system perform to design capacity, and to ensure that all receiving bodies meet state and federal water quality standards. This plan will also be an important guide tool for use in the daily Municipality operations, and as a public reference document. It will address protection of property from flooding and erosion, identify safety and health issues related to water resources, and will make recommendations for the improvement of water storm system and general environmental quality.

Trough the use of performed studies, field observations, hydrologic/hydraulic modeling, available data, and together with the input from Municipality staff and Citizens involvement, the SWMP will identify existing and potential future problems within the Quebradillas Municipality. The SWMP will combine management practices such as; public education and involvement, regulatory ordinances development, development of continue maintenance activities, and capital improvements, among others, in order to meet the plans goal to reduce and control the discharge of pollutants from the MS4 to the “maximum extent practicable” (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA). The major plan elements include:

- Development of Public Education Program to inform Community, Municipality employees, and enforcement personnel, about water quality issues, good housekeeping practices, and the new ordinances and requirements to implement.

- Development of a Storm Water Assistance Program, in order to assist and educate business and persons about storm water runoff concerns, and their efforts to comply with the storm water regulations.
- Development of ordinances to establish minimum requirements for new development and redevelopments, to regulate illicit discharges into surface waters, and require maintenance of private owned storm water facilities, among others.
- Development of drainage system improvements, and solutions for water supply and quality, according to the analysis of acquired and available system data.
- Development of Capital Improvements Program
- Development of Maintenance and Operation Program
- Development of a Compliance Management Program in order to monitor industrial and construction activities waters runoff, and detect illicit discharges into the system and/or surface waters.
- Development of an analysis of founding options and the overall program costs.

1.11.1. Proposed Work Plan

Quebradillas Municipality proposes a five (5) year capital improvement program, to be implemented under the direction of the Municipal Development Department. Initially the proposed Work Plan will focus on the development of a system inventory and in the analysis of available data to determine the target audience and priority zones to focus efforts. It will also develop and implement facility maintenance program, and a comprehensive storm and surface water code and policy. A written annual report containing the implemented measures and its results will be prepared, distributed, and submitted to EPA, in order to fulfill established NPDES requirements. At the beginning of each year the Department will develop a work plan based on previous year results and established priorities, enclosed with semiannual updating Partnership Members and Citizens Advisory Committee meetings. During the time of implementation the Plan envision the development of the drainage network base map and a maintenance system program, the raise of general public consciousness, and the reduction of water runoff

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pollutants to the maximum extent practicable, in order to maintain the general environmental quality of Municipality. The anticipated activities can be divided into six major tasks:

1. Technology Assessment, Development and Demonstration

As a result of population growth the water quality decreases. The industries, automation, irrigation process, among other practices, increase the quantity of pollutants that enter the different environmental spheres. On the other hand, they provide us new practices and technological solutions to deal with environmental quality issues, which are the key to future optimization of process and environmental pollutants reduction.

In order to use the benefits of innovative and alternate water management technologies and practices available, the objective of this task is to identify and develop accurate solutions for water supply and quality.

2. Water Resources Assessment and Analysis

Water data have been collected through monitoring programs used by federal and state agencies such as Environmental Quality Board (JCA), U.S. Army Corps of Engineering (USACE), the U.S. Geological Survey (USGS), U.S. Department of Agriculture (USDA), National Oceanographic Atmospheric Agency (NOAA), and Federal Emergency Management Agency (FEMA), among others.

The objective of this task is to use and provide access to qualitative data available for Municipality and citizens, in order to make scientifically valid management decisions about the water resources impact issues.

3. Anthropogenic Impacts on Water Resources

New and reinforced federal and state regulations regarding general environmental quality, are making it more difficult for Municipalities, Construction and Industry sites, to meet quality standards, especially those concerning to waste and storm water. As part of the green chemistry revolution, new chemical process and green techniques are design in order to reduce the human impact on natural resources. For the economic and future development to continue, the best information and techniques available is required in order to meet current and future water quality and demand.

The objective of this task is to detect those activities made by man that currently adversely affect water quality in the water basins of Municipality. It also investigates and

educate on new methods and products to reduce the environmental impact from water consumption and waste water loads.

4. Water Resource Monitoring

In order to protect population and environmental health, federal and state agency are actively performing and developing new monitoring initiatives, as well as maintaining current programs. Because of the significant variation on methods and goals, the coordination of monitoring efforts can be challenging for Municipalities to perform.

The objective of this task is to track the monitoring data available, and to develop and perform a monitoring program in order to know the contaminants entering the Municipal Storm Water System.

5. Education and Information Dissemination

Knowledge and public involvement is the key to success and meet environmental quality standards. An integral component of the SWMP for the Quebradillas Municipality is to provide information, and share data with population in order to meet the program goal of pollution reduction.

The objective of this task is to share data, information, experience, technology and Municipal projections on water and environmental quality targeted by community, and to keep public abreast of new regulation and developments regarding region water resources.

6. Development of Watershed Management

This task is the integration of the previous five tasks. In order to create a framework for the implementation and development of an efficient management strategy, this task will use the information obtained through the others to create initially a conceptual management model. The conceptual model will incorporate demographics, land uses, water supply and demand, environmentally sensitive areas, among others obtained during the investigation of available information. This will help to determine missing information, and needed factors to develop a permanent strategy that will help the Municipality to perform and maintain the initial goal of the plan which is the pollution reduction.

The objective of this task is to create a strategy which leads the Quebradillas Municipality and other watershed management entities to perform informed decisions to ensure a reliable and safe water supply.

1.12 Description of the Best Management Practices (BMP's) to be Implemented for the Six Storm Water Minimum Control Measures, and the Measurable Goals for each BMP's

1.12.1 Control Measure 1- Public Education

Target audience- general Quebradillas Municipality population

Goal- Increase the public awareness on the harmful effect of human quotidian activities regarding water storm runoff and the potential influence on Municipal water quality, and to inform general public about the steps they can take to reduce storm water pollution.

Best Management Practices:

- A. Storm Water Related Announcement- Development, production and post of an electronic screen storm water related public service announcement.

Possible Measurable Goals- The total storm water related segments time in screen, and the number of display announcements each year.

- B. Educational Involvement- Municipality will develop a storm water outreach program in relationship with local schools and individual groups for a general age-range educational program.

Possible Measurable Goals- The total conferences given each year, the number of attendants (individual, teachers, students, schools); the ages of the people involve (The expectation is to cover 25% of all grade school children every two years); the number of educational distributed material.

- C. Educational on Lawn Care- The Municipality, in partnership with local commercial lawn care companies, and professional volunteers services, will develop a regional care and educational programs that actively support

companies and homeowners using fertilizer and pesticide-limiting techniques, offering lawn care professionals and population the opportunity to agree to use more environmentally friendly lawn care practices. Lawn care companies can advertise their participation in the program as a promotional tool, and give training workshops.

Possible Measurable Goals- Number of partnership established with local care business, suppliers, and retail stores. number of attendants and certificates given for completing training workshops.

- D. Development and distribution of storm water outreach material- The Municipality will develop activities and hand out printed materials like storm water pamphlets, booklets, and flyers, in partnership with the EPA and State agencies to inform and educate the public about storm water pollution issues. It will provide information on lawn care, pest control, pet waste management, proper disposal of household hazardous waste material, water conservation, and pollution prevention.

Possible Measurable Goals- A list of target audiences and possible activities to perform; number of created and distributed material; number of display attended events, and number of display visitors. Number of printed copies material and number of performed activities, including the number of attendants

- E. Storm Water Web Page- Quebradillas Municipality will use the different web pages in use by Municipality to develop a cyber space option in association with existing web pages as an informational public tool.

Possible Measurable Goals - Number of web page visitors.

1.12.2 Control Measure 2- Public Involvement/Participation

Target Audience- All citizens of community

Goal- The point of public involvement is to combined efforts to create an effective program in reducing storm water pollution along the participation and partnership of other groups in the community all working towards the same goal, and to build on community capital—the wealth of interested citizens and groups—to help spread the message on preventing storm water pollution, to undertake group activities that highlight storm drain pollution, and contribute volunteer community actions to restore and protect local water resources.

Best Management Practices:

A. Storm Drain Marking Program- Municipality can establish a program to comprehensively address storm drain marking, actively recruit volunteer groups to help, or facilitate volunteer groups that take the initiative to undertake a marking project; the supplies, safety equipment, and a map or directions to the drains to be marked.

Possible Measurable Goals - The number of stenciled storm drains; number of marking volunteers.

B. Stream Cleanup and Monitoring- Hosting a stream cleanup is an effective way to promote storm water awareness. Municipality should consider designating an individual or group to schedule and organize the cleanup projects, recruit volunteers, coordinate trash disposal with the local solid waste authority, and assign staff for project supervision. Projects should be scheduled several months in advance to provide adequate time to organize volunteers and handle logistical issues.

Possible Measurable Goals - Number of clean streams; number of cleaning volunteers or groups that participate; the quantity of trash and recyclables collected by the cleanup activity; the number of stream miles cleaned.

- C. Volunteers Monitoring Program- Volunteer monitoring programs encourage citizens to learn about their water resources. It will allow the analysis of water samples for dissolved oxygen, nutrients, pH, temperature, and many other water constituents, evaluate the health of stream habitats and aquatic biological communities, the completion of inventories of streamside conditions and land uses that may affect water quality, the cataloging and collecting beach debris, and the restoration of degraded habitats

Possible Measurable Goals - Number of volunteers participating in the monitoring program; the frequency of monitoring; the number of monitoring training workshops given.

- D. Reforestation Programs- Forested buffers that lie between land and water are an essential part of the ecosystem. Reforestation programs attempt to preserve and restore forested buffers and natural forests. Municipality along with volunteers, sponsors, community groups, and state and local conservation groups shall initiate a reforestation program to accomplish several tasks, including park improvement, neighborhood and highway beautification, and the planting of shade trees in parking and pedestrian areas.

Possible Measurable Goals - Number of volunteers; number of areas reforested; number of planted trees; number of partnerships created by program.

- E. Stakeholder Meetings- the Quebradillas Municipality along with citizens, local school groups, community leaders, local and state government representatives, and business owners in the watershed, including representatives from several local newspapers, radio stations, and television news departments, should hold one public meeting per

year to be informed of water quality issues in their community and asked to contribute their ideas and concerns. This will develop the guideline to determine who the stakeholders are, where the meetings will be held, the information dissemination methods and the way results will be used and distributed. It will discuss any announcements, New tasks to be undertaken, the selection of various leadership roles (if necessary), such as volunteer coordinator, minutes recorder, or graphic artist, and creation of committees

Possible Measurable Goals - Number of attendees at the meeting; number of actions taken as result of meeting.

- F. Soliciting Public Opinion- The public opinion can be acquired by the development of a watershed organization which incorporates the ideas and resources of many different groups into a single organization. The groups can consist of local governments, citizens, nonprofit environmental groups, and local universities, among others. The purpose of a watershed organization is to restore, protect, and promote the natural resources of the watershed. To accomplish this, a watershed organization might set goals for and subsequently implement public education and storm water management programs, stream clean-up events, or restoration activities. Watersheds usually encompass multiple jurisdictions and involve multiple government participants. It is essential for all municipalities that fall within the watershed boundaries to participate in watershed organizations. If a watershed organization is still in the conceptual stage, it will be necessary the Municipality help to structure it in a way that will serve all interests in the watershed. A municipality cannot--and should not--control a watershed organization, but it can support it, nurture it, and help it achieve its goals.

Measurable Goal- Number of volunteers; Number of activities; number of meetings; number of actions implemented as result of ideas given on meetings.

1.12.3 Control Measure 3- Illicit Discharge Detection and Elimination

Target Audience- All urbanized area citizens with special emphasis on industrial and commercial sectors.

Goal- Addressing spills and other illicit discharges to the storm drain system, and preventing and eliminating illicit discharges through education, training and enforcement.

Best Management Practices:

- A. Illicit Discharge Detection and Elimination Program Development (IDDE)- Municipality will develop a program to detect and identify illicit non-storm water discharges into drains, and will establish a comprehensive program to address these non-storm water discharges, including reporting hotlines and response procedures. Establishing a strong municipal program with clear policies and procedures will ensure that individual incidents are addressed consistently. It will also help establish evidence in cases where discharges result from criminal negligence. The program will: audit existing resources and programs in order to identify the most appropriate and capable agencies and staff to administer and implement an IDDE program; Establish responsibility, authority, and tracking, important because it allows the program administrator to track illicit discharges and follow up activities, and to measure progress toward program goals. The tracking system could be incorporated into an existing system (i.e., GIS system, spill response, citizen complaints) or developed expressly for the IDDE program; Complete a desktop assessment of illicit discharge potential, to rapidly determine the potential severity of illicit discharges in various areas throughout a community or watershed; and will develop goals and implement strategies to achieve those goals address to the reduction of storm water pollution. The program will be enforced by the implementation of regulations (legal reinforcement) to complement the efforts to reduce and eliminate storm water pollution. Detailed implementation strategies should be documented in standard operating procedures

(SOP's) to ensure management and field staff are aware of procedures, reporting requirements, contact staff, and schedules. Over time, goals should be reassessed based on progress and changing water quality or community conditions.

Possible Measurable Goals - Quantity of illicit discharges found; number of surveys conducted to detect illicit discharges; Illegal discharges reported by citizens; Activities performed in order to educate population, business and industries; Partnerships generated; Amount of SOP's established for program; Ordinances and Resolutions created to enforce the program.

- B. Storm Water Sewer System Map- The Municipality along with volunteers, and environmental groups among others will develop and complete the storm sewer system map, including wells, drains, pipe lines, and curbs.

Possible Measurable Goals -the linear feet of conveyances recorded; a more accurate square mile served by system; number of structural pollution control devices counted; discharge points recorded.

- C. Community Hotline- The solicitation of public help and opinion could be made by the implementation of a community hotline. The citizens will be informed about storm water pollution issues, and activities, among other information required by them. It will also serve as a source of information for the Municipality, giving the public the opportunity to report problems or incidents related to storm water management practices.

Possible Measurable Goals - Number of received calls; number of problems or incidents reported by community; number of people who solicited information and the kind of information given.

D. Regulation Implementation- To enforce non-storm water discharges, the prohibition can be made by the development and implementation of ordinances and resolutions with legal reinforcement on detrimental behaviors.

Possible Measurable Goals - number of new ordinances and resolutions; penalties on different behaviors such as: illegal dumping, and illegal discharges or connections, among others; number of building restrictions developed to prohibit connections; the number of new restrains at construction sites; number of new buildings inspected.

E. Illegal Dumping Control- Municipalities and organizations must implement a program to stop the illegal dumping of trash and used materials. Public education is the most important method of implementing such program. To ensure their effectiveness, some programs allow for citizen reporting of illegal dumpers, who can then be fined, or be required to perform community service.

Possible Measurable Goals - Number of ordinances passed; number of penalties imposed; number of codes to prohibit dumping sites; number of signs collocated announcing the prohibition and penalty of dumping; the number of inspected sites; the number of public educational material distributed to ensure population is aware of new resolutions and prohibitions.

F. Wastewaters Connection Elimination Program- the Municipality shall prohibit through resolutions and ordinances, the unwarranted connection of wastewaters to a storm water systems. It also shall implement and develop procedures, programs and actions required to achieve the programs goals. The program should give emphasis to industrial and commercial wastewaters illicit connections.

Possible Measurable Goals - Number of unwarranted connections reported, founded, and repaired; Quantity of Resolutions and Ordinances address to enforce the program; Amount of penalties enforced upon participants; number of codes

developed to prohibit the connection of wastewaters systems into storm drain system; Number of educational material distributed, and surveys conducted to detect illicit connections.

- G. Recreational Sewage Management Program- Trough the implementation of legal restrains, the Municipality shall develop a program to manage wastewaters disposal generated from recreational or outdoor activities. It also shall implement actions required to enforce the regulations implemented.

Possible Measurable Goals - Total signs placed in order to remain and educate citizens on new restrains; the number of reports received pointing illegal sewage dumping; the number of pump-out stations installed; Quantity of debris collected at pump stations; Number of ordinances created to enforce the program, and penalties enforced upon the participants of illegal sewage dumping; Number of educational material posted or distributed to inform population on programs issues.

- H. Sanitary Sewer Overflow Prevention Program- In order to eliminate and prevent the sanitary sewer overflow, Quebradillas Municipality shall implement a program that ensures the appropriate design, screening, and maintaining of the sanitary sewer system.

Possible Measurable Goals - Number of overflows reported, and detected during site inspections; Frequency of cleaning and maintenance activities; Amount of repairs performed.

- I. Failing Septic System Elimination Program- Development of a program to detect and eliminate failing septic systems, including the enforcement of program through the creation of new ordinances. The program will implement actions to enforce proper site construction, size, maintenance, and post construction inspection of septic systems.

Possible Measurable Goals - Number of field test conducted, and failing septic systems founded during inspections; Inventory of tanks founded including background of service; Number of repairs and scheduled pump-outs conducted; the number of routine maintenance and inspection activities conducted.

1.12.4 Control Measure 4- Construction Site Storm Water Runoff Control

Target Audience- All constructions sites operators and construction activities that disturb at least one (1) acre and discharge to a water body.

Goal- Phase II MS4s are required to develop a program to reduce to the minimal extend possible the pollutants in storm water runoff as result of construction activities. Uncontrolled storm water runoff from construction sites can significantly impact rivers, lakes and estuaries. Sediment in water bodies can reduce the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and block navigation.

Best Management Practices:

- A. Local Ordinances for Construction Site Runoff Control - Municipalities must establish the appropriate legal authority to accomplish the reduction of site runoff pollution. Developing ordinances or other regulatory mechanism to require erosion and sedimentation controls on construction sites that impacts one acre or more.

Possible Measurable Goals -Number of ordinances created for: construction entrance, material storage, construction site runoff controls, natural vegetation preservation, and natural vegetation runoff control; Number of notice of violations given; civil penalties imposed.

- B. Construction Phase Plan Review- Development of procedures for site plan review of construction plans that consider potential water quality impacts. The

procedures for site plan review generally include identifying key staff to conduct the reviews, developing a system to track plans, developing procedures for consistent plan review, and training staff.

Possible Measurable Goals - Number of persons conducting reviews; number of inspected sites; number of training sessions given.

- C. Municipal Construction Inspection Program- Development of procedures for construction sites best management practices to conduct inspections along with the legal enforcement for the implementation of sedimentation and erosion control measures. Regulations require that many construction projects install and maintain appropriate erosion and sediment control, storm water management, and housekeeping BMP's. In addition, these regulations include reviewing construction plans, conducting site inspections, and enforcing control measures necessary to minimize water quality impacts. Conductor inspectors should receive training on regulatory requirements, BMP's, inspections, and enforcement.

Possible Measurable Goals - Number of inspectors at sites, sites inspected, and plans reviewed; Number of failed BMP's; Number of controls reported to be in need of repair; Maintenance activities; stop- works orders given; Ordinances and legal enforcement created to ensure water runoff quality from construction sites; Number of trainings given to inspectors.

- D. Construction Site Waste Controls- Building materials and other construction site wastes must be properly managed and disposed of to reduce the risk of pollution from materials such as surplus or refuse building materials or hazardous wastes. Practices such as trash disposal, recycling, proper material handling, and spill prevention and cleanup measures can reduce the potential for storm water runoff to mobilize construction site wastes and contaminate surface or ground water.

Measurable Goals- Number of inspections conducted and sites inspected; the frequency of inspections and maintenance activities; number of vehicles at

construction site, including their maintenance record; quantity of waste and recyclables collected at construction site; Notice of violation given; Ordinances and penalties imposed for violations.

- E. Public Involvement- As part of the NPDES, the Municipality will create different ways such as community hotline, and a website, in order to give citizens the opportunity to submit their inquires, concerns and any information on violations regarding construction activities.

Possible Measurable Goals - Noncompliance received; inspections conducted as a follow- up report; notice of violation given; stop-work notices given.

1.12.5 Control Measure 5- Post-Construction Storm Water Management in New Development and Redevelopment.

Target Audience- Developers, contractors, construction site operators, inspectors, enforcement personnel, and property owners.

Goal- Develop and implement a program to address storm water runoff for new development and redevelopment projects that disturb grater than or equal to one acre sites, after construction activities have completed.

Best Management Practices:

- A. BMP's Inspection and Maintenance Program-The effectiveness of post-construction storm water control best management practices (BMP's) depends upon regular inspections of the control measures. Generally, BMP inspection and maintenance falls into two categories: expected routine maintenance and non-routine (repair) maintenance. The Municipality shall implement a routine maintenance program to be performed regularly, in order to maintain both the ascetics of the BMP's and their good working order. By the implementation and having penalties in place to deter infractions, this program will help prevent potential nuisances, reduces the need for repair maintenance, and reduces the

chance of polluting storm water runoff by finding and fixing problems before the next rain. All storm water BMP's should be inspected on a regular basis for continued effectiveness and structural integrity. In addition to regularly scheduled inspections, all BMP's should be checked after each storm event. During each inspection, the inspector should document whether the BMP is performing correctly, if the BMP has been damaged since the last inspection, and, if so, what should be done to repair it.

Possible Measurable Goals - Number of inspected sites; number of ordinances created to enforce program; number of repairs needed; Number of storm events during the year; number of inspections; number of incorrect BMP's implementations founded.

- B. Green Parking Program- This program will ensure the application of several techniques, which together, reduce the contribution of parking lots to total impervious cover. From a storm water perspective, green parking techniques applied in the right combination can dramatically reduce impervious cover and, consequently, reduce the amount of storm water runoff. Green parking lot techniques include: setting maximums for the number of parking lots created; minimizing the dimensions of parking lot spaces; utilizing alternative pavers in overflow parking areas; using bioretention areas to treat storm water; and encouraging shared parking. All of the green parking techniques can be applied in new developments, and some can be applied in redevelopment projects, depending on the extent and parameters of the project.

Possible Measurable Goals - Amount of new parking sites constructed under green techniques; Number of impervious parking lots converted or repairs with new green technologies.

- C. Urban Forestry Program- Since trees absorb water, patches of forest and the trees that line streets can help provide some of the storm water management required in an urban setting. Urban forests help break up a landscape of impervious cover,

provide small but essential green spaces, and link walkways and trails. With this Program the Municipality of Quebradillas will study the trees and forests located in and around the urban areas and city it self, in order to ensure the conservation of urban forestry and the implementation of vegetated channels to treat and attenuate storm water runoff, including water flooding. A local forest or tree ordinance is one technique for achieving conservation, and when specific measures to protect and manage these areas are included, urban forests and trees can help reduce storm water management needs in urban areas.

Possible Measurable Goals - Inventory of trees upon specified urban areas; the number of sown species around target areas; Number of ordinances created to enforce the program; Number of partnerships made to increasing public and private sector investment in ecosystem restoration and maintenance activities; Number of educational literature spread; Number of promoting flyers distributed to announce planting activities; Number of volunteers; Number of sow training workshops; Number of new job opportunities; Number of building support workforce for innovative monitoring systems to ensure collaborative learning and adaptive management; Numbers of groups created to encourage approach to ecosystem research that respects local knowledge, seeks community participation, and provides accessible information for communities.

- D. Grassed Swale Program-Municipality shall implement a vegetated, open-channel management practices designed specifically to treat and attenuate storm water runoff for a specified water quality volume. As storm water runoff flows along these channels, it is treated through vegetation slowing the water to allow sedimentation, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Variations of the grassed swale include the grassed channel, dry swale, and wet swale.

Possible Measurable Goals - Number of new grassed swales installed; Number of repaired or cleaned old swales; Number of inspected swales.

1.12.6 Control Measure 6- Pollution Prevention/Good Housekeeping for Municipal Operations

Target Audience- Municipal employees and enforcement personnel

Goal- The objective of the program is to address storm water runoff from Municipal facilities and activities, in order to reduce or eliminate the impacts associated to open-space maintenance, vehicle and building maintenance, storm sewer system maintenance, and land disturbances, among others.

Best Management Practices:

- A. Municipal Employee Training and Education- Employee training programs should be designed to teach staff about potential sources of storm water contamination and ways to minimize the water quality impact of municipal activities, such as park and open space maintenance, fleet and building maintenance, construction and land disturbances, and storm drain system maintenance. Training programs should include a general storm water awareness message, pollution prevention/good housekeeping measures, Spill Response and Prevention, and information about the operation and maintenance of structural BMP's. Training programs also should include information on SWPPP' for municipal facilities and BMP's recommended for use in the field to prevent contaminated discharges. Also, municipal field staff should be trained to recognize, track, and report illicit discharges. Staff training can be performed in a number of ways, like: in-house training programs, on-the-job reinforcement, general awareness and educational materials, and workshops or conferences, among others.

Possible Measurable Goals - Amount of Municipal employees, enforcement personnel and trained staff members; Number of trainings given.

- B. Municipal Vehicle and Equipment Maintenance Program- Municipal activities require the use of various vehicles and equipment, such as public works operation

and maintenance vehicles, police cars, fire trucks, and school and public transit buses. Maintenance facilities may be located at several municipal facilities. Pollution prevention programs trying to reduce polluted liquid discharges from automotive maintenance facilities to storm drains should stress "dry shop" techniques. A dry operation include: All maintenance activities should be performed inside or under cover, spills should be cleaned up immediately, without water whenever possible and clean up materials disposed of properly, and floor drains must be sealed. The program must be enforced with a training program directed to municipal employees, business, and general public as well. The educational information given through trainings sessions must inform public on themes as: Waste Reduction, Use of Safer Alternatives, Spill Containment and Cleanup, Good Housekeeping, and Parts Cleaning, among others.

Measurable Goal- amount of personnel trained; Number of spills reported; Amount of educational material distributed and seminars offered; Number of business and general audience attendance to trainings.

- C. Storm Drain System Cleaning Program- a program which promotes routine cleaning reduces the amount of pollutants, trash, and debris both in the storm drain system and in receiving waters. Clogged drains and storm drain inlets can cause the drains to overflow, leading to increased erosion. Cleaning increases dissolved oxygen, reduces levels of bacteria, and supports in-stream habitat. The program must give special attention to areas with relatively flat grades or low flows because they rarely achieve high enough flows to flush themselves.

Possible Measurable Goals - Amount of inspection surveys conducted; Number of volunteers enrolled on program; Quantity of cleaning activities and waste material recollected at them.

- D. Municipal Landscaping and Lawn Care Program- The program shall develop procedures and management practices to reduce water use and contaminant runoff, and enhance a property's aesthetics. Environmentally friendly landscape

management protects the environment through careful planning and design, routine soil analysis, appropriate plant selection, use of practical turf areas and mulches, efficient water use, and appropriate maintenance.

Possible Measurable Goals - Stores, gardens and landscaping companies associated and participating in the education program; amount of people trained in safe lawn care practices, and pest management techniques; Number of educational workshops given; amount of educational material distributed.

- E. Hazardous Materials Storage Program- Failure to properly store hazardous materials dramatically increases the probability that they will end up in local waterways. Many people have hazardous materials stored throughout their homes, especially in garages and storage sheds. Practices such as covering hazardous materials or storing them properly can have dramatic impacts. Hazardous material storage is relevant to both urban and rural settings and all geographic regions. The effects of hazardous material leakage may be more pronounced in areas with heavier rainfall, due to the greater volume of runoff. The Program must educate public in management considerations for hazardous materials, such as: stacking and storing containers, responsibility for management of hazardous materials, storage areas, outdoor material deposits, loading and unloading areas, and raw materials, among others.

Possible Measurable Goals - Regularly inspected storage sites and units, amount of trained employees and public, quantity of storages facilities equipped to manage hazardous materials; educational material distributed to inform citizens on correct hazardous management practices.

- F. Spill Response and Prevention Program- The program must develop a spill response and prevention plan which clearly states how to stop the source of the spill, how to contain and clean up the spill, how to dispose of contaminated materials, and how to train personnel to prevent and control future spills. Construction sites that use or store hazardous materials should have a spill

prevention and control plan. Hazardous materials include pesticides, paints, cleaners, petroleum products, fertilizers, and solvents Identify potential spill or source areas, such as loading and unloading, storage and processing areas, places that generate dust or particulate matter, and areas designated for waste disposal. Also, spill potential should be evaluated for stationary facilities, including manufacturing areas, warehouses, service stations, parking lots, and access roads. Identify individuals responsible for implementing the plan. Describe safety measures to take with each kind of waste. Specify how to notify appropriate authorities, such as police and fire departments, hospitals, or publicly-owned treatment works for assistance. Municipal procedures for containing, diverting, isolating, and cleaning up the spill. Describe spill response equipment to be used, including safety and cleanup equipment.

Possible Measurable Goals - Number of storage equipment and preventative maintenance procedures conducted; Amount of trained personnel in spill controls and procedures; Inventory of facilities with high spill potential; Quantity of leak-detection devices implemented at Municipal facilities; Frequency of risk sites inspections; Number of trainings conducted; amount of educational material distributed; Number of spills reported or documented.

G. Materials Management Program- Responsible management of common chemicals, such as fertilizers, pest control products, solvents, paints, cleaners, and automotive products, can significantly reduce polluted runoff. Such products must be handled properly in all stages of development, use, and disposal. The materials management program should entail the selection of the individual product, the correct use and storage of the product, and the responsible disposal of associated waste(s). It must implement simple housekeeping practices in order to manage materials more effectively. Proper management reduces the likelihood of accidental spills or releases of hazardous materials during storm events. In addition, health and safety conditions at the facility will improve. Some simple practices for managing materials are improving maintenance of machinery, establishing material storage and inventory controls, improving routine cleaning

and inspection of facilities where materials are stored or processed, maintaining organized workplaces, and educating employees about the benefits of the above practices. Maintenance associated with materials management should be designed to minimize the amounts of materials used and the wastes generated by Municipal processes. Procedures for operation and maintenance must be integrated into the Municipal management plan. Simple processes, such as routine cleaning of work spaces, proper collection and disposal of wastes, maintenance of machinery, regular inspections of equipment and facilities, and training employees to respond to spills or leaks, have significant effects on reducing the potential to pollute storm water runoff. Another consideration is regular material inventories, in order to reduce the occurrence of overstocking hazardous materials, increase knowledge about what hazardous materials are present and how they are stored, and provide documentation of proper handling of hazardous materials.

Measurable Goal- Material Inventory; Number of hazardous material storing facilities; Frequency of inspection sites; quantity of trained personnel in management of material; amount of waste generated by facilities and operational procedures; quantity of educational material distributed.


1.13 Person responsible for implementing or coordinating the applicant's SWMP

Attn: Efraín Cancel
Municipal Management and Development Secretary
P.O. Box 1544
Quebradillas, Puerto Rico 00678-1544
Telephone: (787) 895-1070
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1.14 Signatories to Permit Application and Reports

1.14.1 NOI Corporate Certification (Municipality Government of Quebradillas-Owner)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manages the system, or those persons directly responsible for gathering the information submitted is, to the best of 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.




Hon. Heriberto Vélez Vélez
Major, Quebradillas Municipality
24/ Enero / 2010

Date

1.14.2 MS4's Program Manager Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manages the system, or those persons directly responsible for gathering the information submitted is, to the best of 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.


Efrain Cancel
MS4's Program Manager


Date

1.14.3 MS4's Program Coordinator Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manages the system, or those persons directly responsible for gathering the information submitted is, to the best of 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.



J. J. Rodríguez
Eng. José J Rodríguez
MS4 Program Coordinator

January 24, 2010
Date