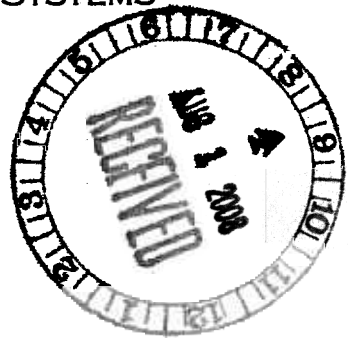
Estado Libre Asociado de Puerto Rico
Gobierno Municipal
Oficina del Alcalde

AÑASCO 1733

Apartado 1385
Añasco, Puerto Rico 00610-1385
Tel.: (787) 826-3100
Fax: (787) 826-7000

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
PHASE II - (MS4's)
REGULATED SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS



NOTICE OF INTENT (NOI)

INDIVIDUAL PERMIT APPLICATION

MUNICIPALITY OF AÑASCO
PO BOX 1385
AÑASCO, PUERTO RICO 00610-1385

U.S. ENVIRONMENTAL PROTECTION AGENCY – REGION II
CARIBBEAN ENVIRONMENTAL PROTECTION DIVISION
CENTRO EUROPA BUILDING, SUITE 417
1492 PONCE DE LEÓN AVENUE
SAN JUAN, PUERTO RICO 00907-4127

July 22, 2008.

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NOTICE OF INTENT
NPDES Permit No. PRR040000
Regulated Small Municipal Separate Sewer Systems (MS4)
Municipality of Añasco
Puerto Rico

I. BACKGROUND ON COMPLIANCE OBLIGATIONS

A. Back in its origins, section 402 of the clean water act prohibited discharges of any pollutants to waters of the United States from a point source, unless the discharge is authorized by a NPDES Permit. The original NPDES Program Focused on Industrial Process, Wastewater and Municipal Sewage. Recent studies by Nationwide Urban Runoff Program (EPA 1983) and others have shown that storm water runoff from urban and industrial areas contains the same general types of pollutants often found in wastewater industrial discharges.

In 1990, EPA promulgated rules establishing **PHASE I** of the National Pollutant Discharge Elimination System Storm water Program. The **PHASE I** requires operators of medium and large MS4'S, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a mean to control pollutants discharges from their MS4'S. On January 2000 (revised on December 2005) EPA published The Storm Water **PHASE II FINAL RULE** which requires the Municipality of Añasco to submit an application for permit coverage. **PHASE II RULE** automatically cover on a nationwide basis all small MS4'S located in urbanized areas as defined by the bureau of census, and those located outside of urbanized areas but designated as such by NPDES permitting authorities.

The Municipality of Añasco submits this permit application for Individual Coverage Under General NPDES permit for small MS4 coverage, in compliance of EPA Region 2 request to the Municipality in an order to engage in NPDES coverage process.

II. GENERAL INFORMATION FOR MS4'S PERMITS

A. In lieu of EPA studies findings on runoff in urban areas the program requires that all municipalities, incorporated places and counties with unincorporated urban areas that owns and/or operates and MS4 shall obtain an NPDES storm water permit. The purpose is to develop information, in a reasonable time frame, in order to build successful storm water management programs while allowing permitting authorities to make informed decisions about permit conditions. Being a program designed to develop information to be updated, the program allows each applicant, flexibility on how to present and organize the information in a way which best suits the MS4'S needs and is most consistent with its overall storm water management's strategy.

III. ACTIVITIES REQUIRING AN MS4 PERMIT

The Municipality of Añasco operates a Municipal Separate Storm Sewer System located on the Western Part of Puerto Rico.

IV. FACILITY INFORMATION

A. **Name**: Small MS4 of Municipality of Añasco, Puerto Rico

B **Responsable Official:** Honorable Pablo Crespo Torres
Title: Mayor
Mailing address: Apartado 1385, Añasco, Puerto Rico 00610-1385
Telephone: (787) 826-3100, 2815
Email address: rperez@anasco.gobierno.pr

C. **Contact Official**: Mr. Noel Medina Acosta
Title: Municipal Administrator
Mailing address: Apartado 1385, Añasco, Puerto Rico 00610-1385
Telephone: (787) 826-4266
Email address: admanasco@hotmail.com

D. **Operator**: Municipality of Añasco, Puerto Rico

Status: Municipal Separate Storm Sewer System

Mailing address: Apartado 1385, Añasco, Puerto Rico 00610-1385

Telephone: (787) 826-3100

E **Standard Industrial Classification (SIC) Code**:

SIC Code for the Municipality of Añasco is 9119

F. **Listing of any permits or construction approvals received or applied for any of the following programs:**

a. Federal Permits or Construction Approvals

i. Resource Conservation and Recovery Act

None

ii Underground Injection Control under the Safe Drinking Water Act

None

iii. NPDES Program under the Clean Water Act

None

iv. Prevention of Significant Deterioration Program under the Clean Air Act

None

v. Nonattainment Program under the Clean Air Act

None

vi. National Emissions Standards for Hazardous Air Pollutants Preconstruction Approvals under the Clean Air Act

None

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

None

viii. Dredge or Fill Permits under Section 404 of the Clean Water Act

None

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G. **Storm Water Sewer Map:**

Actually the Municipality of Añasco does not have the information, data, technology and fiscal resources to develop a detailed storm sewer map. Therefore for purposes of this application included is a map identified in Appendix A, illustrating the geographical extension of the urban areas within the territorial boundary of the legal geographical extension of Añasco. Nonetheless it is acknowledged that the municipality in order to comply with MS4 requirements shall prepare a detailed map within the period of the permit implementation phase. A per the requirements set forth in the NPDES (MS4) program, the map shall include at minimum information related to:

- General topographic contours for the geographical extension of the Municipality of Añasco.
- Main watersheds and sub-watersheds discharging in secondary streams and Hydrographic.
- Municipal and State roads with storm systems discharging at municipal MS4.
- Wastewater treatment plants owned by others.
- Municipal storm sewer system.
- Waters bodies of the United States of America.
- Wetland and Reparians areas.
- Shoreline with main discharges.
- Ground water wells.
- Commercial and industrial NPDES permitted facilities interconnected to municipal MS4 and/or surface water bodies.
- Hazardous waste facilities.
- Urbanized cores within the territorial extension.

- Zoning and classification land uses, including specially protected areas.
- Inlets, catch basins and outfalls.

The Municipality of Añasco has ortho-photos images covering all its territorial extension. It also has shape files of environmental, physical, geological, infrastructure and dotation systems, etc., which needs to be updated. This shape files are part of the information sharing agreement with the Plans Board of Puerto Rico and other government's agencies. On fund availability basis the Municipality of Añasco has the intention to gather the most recent information and data prepare such a map in order to design an effective program including an NPDES MS4 management, implementation and monitoring program.

H. **Nature of the Business:**

Located on the Western region of the Island of Puerto Rico, Añasco has one of the largest territorial extensions of the region. In account of its location within the Rio Grande de Añasco watershed, and wet flat lands within the Añasco Valley the city encores an urban areas in a spot pattern form creating separate urban nucleus. This condition forces the development of the city in an irregular pattern.

Because its location Añasco represents one of the major tourism spots within the "Porta Del Sol" Government Tourist program; therefore large development might be expected at short and long range in the next coming years.

Its geographical composition encores a territory of 39.7 square miles surrounded by mountains to the northeast bound and flatland and ocean shore front to the southwest bound. The city has experienced rapid

development of urban areas compatible to Tourist & Industrial Center Activities.

As per the 1990 and 2000 US census the population of Añasco increased from 25,275 to 28,348. For year 2005, preliminary evaluations shows that the population ranges somewhere in the 29,644 peoples. During the last years economic social and tourist development has represented an up coming challenge to municipal Government. Due to the actual and expected developments within the Municipality the MS4 development management and implementation represent a milestone challenge in the administrative responsibilities of Añasco. The Municipality of Añasco is willing and will engage in all necessary steps in order to develop, manage and implement the required NPDES MS4 Program with all relevant information necessary for EPA compliance.

Añasco MS4 will eventually serve an area of approximately 1.88 square miles. The exact measurement might be established as part of the implementing plan.

J. **Description of the best management practices:**

The best management practices to be implemented by the applicant for each of the six storm water minimum control measures with an analysis of the measurable goals for each BMP, estimating the Date for actions taken including interior milestones and frequency of the action is referred to in Appendix A.

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 gather and evaluate the information submitted.

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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, 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.

Pablo Crespo-Torres
Signature of Responsible Official

Honorable Pablo Crespo Torres
Responsible Official Name

Mayor
Title

July 22, 2008.
Date

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Añasco, Puerto Rico 00610-1385
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1.1 WORK PLAN DEVELOPMENT & PROPOSAL

The Municipality of Añasco is in the process of organizing a Development & Land Use Department. This Department tasks will include, among others, the regulation, control and administration of all physical and spatial uses and development within the Territorial extension of the Municipality. As part of its responsibilities this Department will perform plans, review's and inspection of all developments, redevelopment, compliance and monitoring of existing commercial and industrial activities within the municipality. Al projects or development of operations of existing activities shall be subject to a review and endorsement of this office in order to continue operations.

By virtue of the Municipal Act Number 81 of August 30, 1991 as well as Rule & Regulation Number 24 of the Plans Board of Puerto Rico the Municipality of Añasco has filed a Land Use Program to regulate it spatial development. In compliance with program requirement a citizen committee was created to serve and represent the citizen interests in all actions taken in the development of this plan. This committee will ensure the citizen information and active participation in all decisions of approved program.

Being the Storm Water run-off activity closely related to land developments, therefore, it will be part of the tasks and responsibilities of this Department, the implementation and monitoring of the Storm Water Management Program. The work plan for the storm water management program will be developed in function of the priority needs of the Municipality under a controlled criterion to improve the health, welfare and orderly development of the city. The work plan is expected to be revised on a yearly basis in function of the data and information gathered interactively from the plan implementation.

All parties involved in the plan shall meet at least three times during a natural year to inform all members and a steering citizen committee the advances, progress, effectiveness and overall changes occurring on different activities that form part of the plan. The work plan will be structure on the following major components:

1.1.1 Governmental Component

Even though the Development and Land Use Department will be the leading dependency in the design, implementation and monitoring of the **SWMP**, it will also be the coordinating agency within the Municipality with other intergovernmental municipal agencies or departments dealing over storm-water related issues. In fact, the coordination will turn around the Public Work Department, Environmental Health Department, Solid Waste Collection Department and Finance Office for the local municipal government and Environmental Quality Board, Natural Resources Department, Plans Board, Health Department, Permit and Regulation Administration (ARPE) Office for the State Government.

The plan shall include an information and data interchange among the intra-department offices in order to revise, update, monitoring and enforce the work plan.

1.1.2 Legal Authority and Comprehensive Planning

As stated before the Municipality is on the process of developing a Land Use and Spatial Regulation Plans to control the development of it territory. These plans will be complemented with the establishment of local codes and ordinances that will control all living, residential, commercial, industrial, recreational, agricultural and social-economic activities within the Municipal Territory. As part of the Plan, also, the hydrological cycle will be regulated in order to maintain within the standard limits the storm water

discharges and the associated pollutant loads. In this way the Storm Water Management Program Elements will be fully integrated with community land development process.

1.1.3 Funding and Staffing Component

Once the Development and Land Use Department is under control of the Storm Water Management Program, here in presented, it will immediately commences the identification of funding resources and personnel necessary to comply with the management plan requirements.

1.1.4 Public Education and Participation Best Management Practiced

Being both components an integral part of the storm water management program we will discussed each of them separately on subsequent section of this report.

1.2 BACKGROUND FOR STORM WATER MANAGEMENT PROGRAM

The Municipality of Añasco recently was notified of EPA Phase II Rule in order to comply with the necessary requirements for coverage under a General NPDES Permit issued by EPA. As per the requested information the Municipality recognizes the operation of a storm water separate system in the urban area of it territory. (see Appendix "A" for urban area maps). Besides the operation of the storm water separate system the municipality operates a motor pool where vehicle maintenance activity is the main operation activity. Actually the Municipality of Añasco needs to prepare an inventory of storm water inlets, pipes, ditches, and open channels in urban areas; as well as the locations and number of water outfalls. The main part of the Plan will be the identification of illegal discharges and major pollutants in order to design the tools necessary for its reduction, elimination and or replacement.

1.2.1 Management Plan Criteria and Facilities

The main goal of the SWMP is to develop a mechanism in order to graph, maintain and improve the municipal drainage system (MS4) to meet the design capacity and discharge as per the requirements of State and Federal Standards for proper delivery into receiving water bodies. The mechanism to be developed will be presented in a report form including an inventory of pipelines, structures, catch basins duly located on plans referenced to NAD83 State Coordinate System. This document will also include an implementation strategy, monitoring and update interactive cycling that allows corrective measures to ensure optimum operation and effectiveness. Along with the compliance of regulatory measures imposed by state and federal regulation, the Plan also addresses issues such as protection from flooding, erosion and sedimentation and identifies related health and safety measures that enhance the welfare and social community living

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Once the municipality identifies the regulatory requirements to comply with the problem consist to asses the capacity and condition of actual drainage system Vis a Vis the needed capacity for actual and future developments. In order to perform this, it is required the identification of current practices, so that changes may be incorporated considering the major activities and stakeholders that may affect drainage pattern and pollutant discharges.

To develop the optimum plan strategies our task will commences with field observations, results of Hydrologic & Hydraulic Studies performed by state, private and federal agencies, computer modeling of hydrological conditions, identification and inventory of existing facilities and the processing of the data gathered for plan configuration and design in function of identified drainage problems.

To be consistent in the plan development the criteria shall identify the developments of the following components:

- The Municipality shall approve an ordinance to account for:
  - New Development of land space.
  - Re-developments of existing projects.
  - Illicit discharges identifications and regulations.
  - Maintenance of privately owner drainage system.
  - Public involvement and education on water quality issues.
  - Engagement of stakeholders and/or commercial, industrial and recreational activities in the efforts to comply with NPDES Storm Water Regulations.
  - Engagement of General Public in activities to acknowledge on storm water and quality of water issues.

- Perform HH Studies with computer modeling on the major drainage basins within the Municipality to predict or project actual flows, new developments impact on drainage pattern and flow and to establish the design capacity of the required systems to handle storm water predictions.
- Analyze the floods effects on water quality of receiving bodies and their corresponding improvements.
- A plan for capital improvements, maintenance and operation costs.
- A program for funding alternatives including a fee on existing or new developments as well as fines on illicit discharges violations.

At this stage and considering the limiting condition of the "fisco" at the municipality as well as the fact that this program constitute the first step in regulatory compliance of a permanent municipal activity to deal with water quality issues; the major interest of the program will aim in the following system elements;

- Ocular inspection of existing system to provide the basis of existing inventory of the facilities and water quality mechanism needed to be developed.
- Design of a facility implementation, maintenance operation and monitoring program.
- Design a comprehensive storm water policy to regulate existing and new activities.
- Design a short and long term capital improvement program.

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1.2.2 Work Plan

The Development and Land Use Department will be in charge of steering all parties involved in the design and operation of the Work Plan. The Plan will be developed on a stage pattern for a period of five (5) years considering that all parties involved, including at least, the personnel working directly on the plan and the citizen advisory committee, will celebrate semiannual meetings which will recommends updates and/or revisions to the plan in an annually basis. From these meetings a report shall be prepared on the progress of the plan, and recommendations of changes will be provided as the updates or revision to the main draft of the plan. This first draft of the major plan will be structured fundamentally on the following tasks:

1.2.2.1 TASK I: Suitable technological tools applicable to specific identified problems.

Due to the rapid population growth, an increased industrial, commercial and residential development has resulted in the region. Therefore water quality preservation has become a milestone to attain for the rapid growth. In order to coup with this population growth the appropriate technology has to be identify and selected to comply with water quality standards and maintain the existing aquifers for future generations.

It is the objective of this task to identify the best suitable technology available and compatible to the specific storm water problems within the community. Compliance with this objective will result in better storm water management strategies and criteria needed to implement an effective storm water system for the city.

1.2.2.2 TASK II: Assessment of source points and watershed basins.

Actually the Municipality of Añasco has developed criteria and strategies to plan the spatial use of its land resources. This plan is instituted through the territorial organization of it space. The criteria and strategies are established to conform actual infrastructure, superstructure, vial system and topography of the territory. Existing and new developments as well as topographic characteristics has divided the territory in various sub-watersheds which creates source points of storm water discharges requesting pollutant analysis. Some of this sub-watersheds source points discharges through MS4 drainage system into receiving water bodies.

The objective of this task is to create an inventory of existing source points and sub-watersheds affected by these source points. Once we have the inventory, a link is made with state and federal existing data concerning water quality, providing a reliable quantifiable database on water quality elements. Having this quantifiable and reliable data base on water quality and source points we will become able to scientifically attain effective implementation, management and monitoring of storm water management plan.

1.2.2.3 TASK III: Primary contributors of pollutants.

Rapid growth within the Municipality and the Region has consequently created new industrial and commercial activities. As a consequence this new activities generates new source points of storm water run-off. The cyclic dynamics finally result in new source points contributing to pollution discharge into storm water system (MS4) and finally into receiving water bodies. This dynamics request the assessment of primary contributors of pollutants and the identification of pollutants types; with the information gathered concerning the source points and pollutants types the Municipality and all parties involve

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are in a better position to design the best effective strategies and best management practices.

It is the goal of this task to provide the municipality and all parties involved with the best information and database of quantifiable elements and characteristics of the territory in order to guide the most economical and profitable development of all Municipal activities maintaining the best quality of water and the minimum of pollutants into storm water system all in compliance with state and federal standards.

1.2.2.4 TASK IV: Selection of Best Management Practices.

The selection of the best management practices depends on the particular problems of each location. Normally they are the iterative final results of a well design monitoring and educational programs. Most of monitoring new initiatives and information is being developed by state and federal government; however the information obtained is not coordinated properly and eventually does not reach the affected parties and or those implementing the programs. This situation pertains to divorce the data obtained from actual field crew's resulting in detriment to best management practices and strategies. The educational component has to be stressed in the Municipality of Añasco, since in its particular case involving the community in water issues is a key element to help in keeping the program within the effectiveness expected.

This task objective is to collect the most reliable information, observational an quantifiable scientifically, in order to acquaint the designing and implementation team with the most reliable data. In this way they will be able to select the best management practices, using the appropriate tools compatible to the information obtained.

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1.2.2.5 TASK V: Development of an Effective Watershed Management Program.

This task considers the information gathered in previous discussed tasks to properly design an optimized mechanism that allows economical physical development and land use with minimum impact to the water resources. In this way the geology, ecology, hydrology, topography, soil properties and water quality standards are integrated in a proposed development model that uses a check and balances iteration which allows the most economical development of the Municipality while maintaining a clean environment and water quality standards within the attainable parameters required by federal and state government.

Finally the storm water management program will become integral part of a model system which integrates, population growth, increasing commercial and industrial activity, new developments and redevelopment of various activities. The integration of all elements shall be in a manner that produces the most optimal operation of each element, preserving the water quality set forth in official state and federal government standards.

1.3 DESCRIPTION OF MEASURABLE EFFECTIVENESS OF THE BEST MANAGEMENT PRACTICES FOR THE SIX MINIMUM CONTROL MEASURES SET BY EPA.

1.3.1 Public outreach and education on storm water impact.

I. Rationale

As part of it responsibility as an operation of a MS4 Storm Water Separate System the Municipality of Añasco understand the importance of a general public outreach campaign on Storm Water. Even though this campaign should be addressed to all citizens, the great activity generated by small businesses ("colmado cafetines") in the area as well as the awareness necessary for young fellows enforces to focus toward small businesses owners and school children's. Small businesses of the "colmado" types have been identified as significant contributors of oil and grease to storm water systems.

II. Minimum Measure Objective

The purpose of this measure is to educate school children as well a general public by distributing "propaganda" (promotion, advertising, loose leefs) with storm water quality messages, local radio advertising and/or other appropriate media. The advertising promotion shall focus on public awareness of the harmful effect of polluted storm water systems. Being the municipal territory mostly of flat topography with various wetlands as receiving bodies, discharging directly to the ocean it is of great importance for the general public to engage in preventive practices aiming to reduce pollution of storm water systems

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BMP-1: CLASSROOM EDUCATION ON STORMWATER

To comply with this practice the municipality shall develop an educational program which will include information concerning the topography and hydrology of the territory. It will also include information on typical pollutants, receiving bodies and impact of water quality on health environment and future welfare of the community. Typical components of this campaign are;

- The printing of 20,000 educational leafs with information on water quality issues, characteristics of Añasco watersheds and storm water system and actual pollutants from various activities.
- Seminars or workshops by operational municipal personnel to Añasco School System to aware the young fellows on the importance of storm water preservation within standard limits.

Measurable Effectiveness:

At a minimum the following elements shall measure the effectiveness of the BMP-1.

- ✓ The Number of material distributed to schools which we expect to be 20,000 every years.
- ✓ The number of young fellows educated, expected to be at least 30% of the total student bodies in a yearly basis.
- ✓ The number of certificates to student on an exam/basis expected to be at least 100 certificates.
- ✓ The number of science projects on storm water issues developed by local school students, expected to be one every two years.

Time Frame:

The Municipality expects to comply with the BMP-1 within the following time frame.

- ✓ Impression of the 20,000 leafs with storm water information shall be commenced during the first sixth month from the general permit coverage approval and will be completed before the end of the year.
- ✓ Seminars and workshops will be coordinated with Department of Education and shall be committed immediately after percent approval. A total of two seminars per year are projected.

BMP-2: EDUCATION FOR COMMERCIAL ACTIVITIES

To comply with this practice the program proposed the development of communication letters with restaurants and commercial activities owners. It is expected to reach at least as 500 activities owners and/or administrators per year, the letters have the intention of educating and warning businesses owners about their effect of their activities on storm water system federal requirements and fine and penalties applicable to violators. The list of business activities will be obtained from municipal tax business registry.

Measurable Effectiveness:

A minimum of 500 letters shall be issued containing information on storm water issues and violation penalties as well as informing the availability for review of the SWMP for the Añasco Community.

Time Frame:

The Municipality expects to comply with the BMP-2 within eight (8) months from General Permit coverage approval. There after it will

continue on a same yearly basis and the eight (8) month time frame for compliance.

BMP-3: MEDIA ANNOUNCEMENTS

The municipality proposed to develop and produce five 30 seconds air radio announcement on storm water related public service. This public service announcement shall highlight the impact of storm water in the community.

Measurable Effectiveness:

The number of segments transmitted each year and the response obtained from citizen in a Municipal Web-page to be developed as part of this project.

Time Frame:

The Municipality expects to comply with BMP-3 within 10 month of the General Permit coverage approval. There after it will follow the same pattern

BMP-4: MUNICIPAL WEB-PAGE

Associated with its web-site the Municipality of Añasco shall develop a Municipal Web-page to aware the general public in storm water fact's and Municipal Programs.

Measurable Effectiveness:

The number of visitor to the page.

Time Frame:

The web-page on storm water issues shall be prepared within the first 12 month of the General Permit coverage approval.

BMP-5: ANNUAL SEMINAR TO BE SPONSOR BY THE MUNICIPALITY WITH PARTICIPATION OF EPA, EQB AND MUNICIPAL EXPERTS ON STORM WATER QUALITY AND GOVERNMENT REGULATIONS.

The Municipality shall develop a seminar to the General Public, Contractor's, Engineering and Commercial and Industrial Activity Administrator's aiming on the discussions of SWMP of the Municipality, changes or updates to the existing plan and latest trends within regulatory agencies.

Measurable Effectiveness:

The assistance and impact obtained on an evaluation form, from public participation.

Time Frame:

The proposed seminar shall be organized and held every eighteen (18) months, and the first one will be programmed to be held within the first twelve (12) month from the general permit coverage approval.

BMP-6: EPA & EQB FLYERS AND PAMPHLET ON STORM WATER AND WATER QUALITY

There are various pamphlets and flyers promoted by EPA and EQB of Puerto Rico on Storm Water and Water Quality issues. This pamphlets and flyers shall be obtained from EPA and EQB and distributed in specific campaigns to general public.

Measurable Effectiveness:

The effectiveness of the goal will be measured according to

- ✓ Number of material distributed.
- ✓ Visitors on web-pages oriented from this campaign

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Time Frame:

The BMP-6 shall be performed during the first eight (8) month from the general permit coverage approval

1.3.2 Public Involvement and Participation.

I. Rationale

The program has scheduled to comply with Public Involvement and Participation of the General Public. Involvement of public in the early stages of the storm water management plan encourages the citizens to be rangers on compliance regulations as well as makes them feel to be part of the designed strategies. Actually the Municipality does not have an intensive program concerning Storm Water Issues. Therefore a good strategy is to get the general public involved with the Municipality in designing the rules that will protect their own system.

II. Minimum Measure Objective

A number of activities will be organized to get the public involvement in storm water issues. Stakeholders groups including governmental, business and citizens shall be involved in decision making about storm water management priorities.

BMP-1: ESTABLISH A **NPDES** STORM WATER STEERING COMMITTE

- Involving stakeholders early on the Storm Water Management process will improve support for programs since they will voice their concern and suggestions before the program is completed.

Measurable Effectiveness:

The NPDES Steering Committee will include representatives from city, general public, industrial and commercial groups as well as contractor and developers groups. The Committee will meet every six months

from the General Permit coverage approval and will be established thirty (30) days after NOI submittal.

Its effectiveness will be measured in terms of:

- ✓ The Number of meetings compliance.
- ✓ Assistance for the meetings.
- ✓ Suggestions presented by members.

Time Frame:

The Steering Committee shall be organized during the first thirty (30) days of NOI submittal and will meet every six months.

BMP-2: STORM DRAINS STENCILING PROGRAM

A Community Program will be implemented to label all existing storm drains within the MS4 limits. The stencils shall include a message informing citizens no to dump pollutants. On a cost basis it could include information as elevation direction of flow, pipe diameter, etc.

Measurable Effectiveness:

The information on each inlet will be presented in the General Map identifying each stenciled inlet. The number of stenciled storm drains will be the measure of effectiveness of this management practice.

Time Frame:

The Stenciling Program shall commence within the first three months after Permit Approval and or NOI submittal which ever is less.

BMP-3: COMMUNITY HOT-LINES

The Municipality shall develop a community hotline system in order to allow interested parties and/or citizens to address specific problems,

complaints and/or consulting matters, therefore assist in the specific solution of each activity.

Measurable Effectiveness:

The effectiveness of the program will be measured on a basis of the number of hotline established, the number of calls received and the number of problems remedied as a result of the hotline system.

Time Frame:

The Municipality estimates that the first hotline shall be available within the first three (3) months from the NOI submittal. Information to the public, concerning the establishment of the hotline will be provided as per the public outreach and education program.

BMP-4: HOLD PUBLIC MEETINGS TO RECEIVE INPUT ON THE PROPOSED PROGRAM

Public meetings are the most effective way to inform citizens about the impact of storms water on water bodies while at the same time the public gain knowledge on water issues, which finally results in public support of the proposed storm water management program. The citizens will become aware about these issues that affect the watershed, therefore increases citizens responsibility.

Measurable Effectiveness:

The effectiveness of this practice will be measured on a basis of the number of meeting held; the number of attendees and the number of actions taken as a result of the meetings.

Time Frame:

The Municipality expects to celebrate two meetings per year, commencing the first meeting, six months after the NOI is submitted.

BMP-5: ATTITUDE SURVEYS.

The Municipality shall develop an Attitude Survey Strategy in order to measure the public awareness on storm water issues. The results of the surveys will reflect the effectiveness of the public education program and pave the way for new strategies.

Measurable Effectiveness:

The effectiveness of the program depends on the development of a strategic questionnaire in order to obtain the projected response from the public in function of the storm water program. Thereafter the effectiveness will be measured in function of the number of citizens solicited to complete the survey, the number of completed survey and the change in attitude/behavior after storm water education activities.

Time Frame:

Attitude Surveys shall be performed every year commencing with the first survey one year after the NOI submittal.

BMP-6: REFORESTATION PROGRAMS

The Municipality of Añasco shall develop a reforestation program in combination of Central Government to promote the reforestation of flat lands within the western territory to prevent erosion and sedimentation due to open flow characteristic of the area. In this manner the erosion and sedimentation of the flat plains and the ocean shore line will be significantly reduced therefore preventing pollutant transportation to these water bodies.

Measurable Effectiveness:

The effectiveness of this practice will be measured on the number of volunteer tree planters, the number of trees planted and the number of acres of trees planted.

Time Frame:

The Municipality expects to commence tree planting within the first year of NOI submittal in a program share basis with the Central Government of Puerto Rico. The program will be assessed once commenced to measure if effectiveness.

Apartado 1385
Añasco, Puerto Rico 00610-1385
Tel.: (787) 826-3100
Fax: (787) 826-7000

1.3.3 Illicit Discharges Detention and Elimination.

I. Rationale

The Storm Management Program might develop an awareness concerning the illicit discharges. Specifically in Añasco, some of the illicit discharges sources are used sanitary waters, effluents from failing septic tanks, domestic toxic disposals, sanitary sewer overflow and illegal dumping. Most of those illicit discharges sources may be controlled and eventually eliminated once the management plan hereby presented is fully implemented. To initiate the process the Municipality plans to map the entire system to systematically address potential problem areas, commencing with a general survey to identify problem areas and then with detailed field inspections to identify specific field problem. Public support identifying illicit discharges will be enlisted as part of the plan. The final goal is to identify all sources of not storm water, entering the storm water system, either being direct (waste water connected to storm drains) or indirect connections (infiltration from leaky waste water system spills of dump into the storm drains.)

II. Minimum Measure Objective

The most important objective of this measure is to develop a comprehensive map of the storm drain system to identify most probable source potential problems areas. Then, an inspection and screening of storm water behavior and changes within those areas, to identify specific illicit discharges. Therefore a legal authority enforcement action to remove illicit discharges will be enacted. Finally the program shall combine with other measures to encourage public education and involvement in the process of eliminating illicit discharges.

BMP-1: STORM DRAIN SYSTEM MAP

The Municipality shall develop within the MS4 a Storm Drain System Map showing the engineering data and location of the following activities and or elements of the system.

a. Pounded areas, water streams of rivers dry drainage, wetlands and flood areas.
b. Physical control devices.
c. Inlets and conduits 6" or larger.
d. Collectors
e. Tributary discharging surface areas.
f. Outfalls.

Measurable Effectiveness:

Once the comprehensive infrastructure map of the MS4 have been completed, the Municipality will have the tool to aid in targeting outfalls during dry weather to identify flows and other suspicious discharges for more in-depth inspections and monitoring. In this way it will help in coordinating management activities to remove illicit connections and track storm drain system maintenance. Some of the effectiveness measures to evaluate the progress of this BMP-1 are:

- ✓ The Number of inlets and/or catch basins identified data collected.
- ✓ The number and length of conduit identified.
- ✓ The number of potential problem areas identified.
- ✓ The number of inspection performed.
- ✓ The number of pollution control devices identified and data collected.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-2: DRY-WEATHER SCREENING OF ILLICIT CONNECTIONS

A survey of 20% of the storm drain system out falls will be conducted to identify non storm water flows. Once the survey is completed, areas with suspicious discharges will be inspected to detect direct waste water connections to the storm drain system.

Measurable Effectiveness:

Once the Survey has been commenced the effectiveness of the BMP-2 will be determined as per:

- ✓ The survey response indicating a number of possible illicit discharges.
- ✓ Inventory of high risk sites for inspections.
- ✓ Number of field test conducted in high risk area.
- ✓ The number of illicit discharged points identified.
- ✓ The number of illicit discharge eliminated.
- ✓ The number of legal enforcement actions taken.
- ✓ The number of illicit discharge connection replaced or repaired.
- ✓ The number of building inspection.
- ✓ Wherever an ordinance to enforcement violators and allow inspections has been developed and approval.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-3: ORDINANCE TO ENFORCE NON-STORM WATER DISCHARGES AND ILLEGAL DUMPING

The Municipality of Añasco shall develop and pass as an ordinance a scheme to prevent, discourage and prohibit the illicit discharge or dumping of pollutants within the storm drain system. Public involvement as well as commercial and industrial activities shall participate in this effort.

Measurable Effectiveness:

The effectiveness of this measure will be counted on the following:

- ✓ The time-frame of ordinance enactment.
- ✓ The enforcement extension of the ordinance.
- ✓ The number of commercial and/or industrial activities participating in its enactment.
- ✓ The number of enforcement action proceeds under the ordinance.
- ✓ The number of inspections performed on the ordinance grounds.
- ✓ The number of illicit discharges and/or illegal dumping penalties enforced under the ground of the ordinance.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-4: DETECTION PROGRAM OF ILLICIT DISCHARGES AND ILLEGAL DUMPING.

The Municipality shall develop a strategic program to detect, identified and eliminated non storm water flows of significant pollution hazard

and illegal dumping sites and customs, most source of non storm water flows come from;

- ✓ Water flushing.
- ✓ Irrigation.
- ✓ Car washing.
- ✓ Chlorinated waters.
- ✓ Street wash water.
- ✓ Fire fighting activities.
- ✓ Rising ground water.
- ✓ Commercial discharges.
- ✓ Deteriorated building systems.

The program shall focus on these and other sources to engage in the control, replace, repairing and/or elimination of the same.

Measurable Effectiveness:

The effectiveness of BMP-4 will be evaluated from the following activities;

- ✓ The number of field test on high risk areas.
- ✓ The number of survey performed to identify potential risk areas.
- ✓ The number of illicit discharged of connections detected.
- ✓ The number of illegal dumps detected.
- ✓ The number of illicit discharges and illegal dumps eliminated.
- ✓ The number of penalties enforced.
- ✓ The number of citizens, government, officials and commercial-industrial activities actively participating in the program operation and enforcement.
- ✓ The number of buildings inspected.
- ✓ The number of illegal dumps clean-ups completed.

- ✓ Weather an inventory of prime areas for illegal dumping was completed.
- ✓ The number of prime areas for illegal dumping detected.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-5: PROGRAM TO MANAGE RECREATIONAL SEWAGE DISCHARGES.

The Municipality shall develop and manage a recreational sewage plan in which measures shall be taken to regulate waste water generated from outdoor activities and implement a program to enforce the regulation of such activities. Since the Municipality of Añasco have endorsed the operation of a water front hotels, beach-front recreational housing activities and a public "Balneario"; as a result, beach boating and camping activities will be incremented at Añasco Playa area.

Measurable Effectiveness:

To measure the effectiveness of the program the Municipality shall evaluate the performance of the following activities:

- ✓ Whether an inventory of high risk areas was completed.
- ✓ The number of pump-out station installed.
- ✓ The amount of waste collected at the pump-out stations.
- ✓ The number of sign installed reminding citizens of dumping policies.
- ✓ The number of complaints from citizens reporting illegal actions.
- ✓ The number of enforced cases of recreational dumping.
- ✓ The increase of visitors numbers due to policy compliance.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-6: PROGRAM TO DETECT AND ELIMINATE SANITARY SEWER OVERFLOWS.

The Municipality shall develop a plan and a program to establish policies for screening and maintaining sanitary sewer systems. The program shall include an activity to detect actual overflows of sanitary sewer systems and action to enforce the policies established to eliminate the existing overflows.

Various measurements contained in other BMP shall be included to form part of this BMP-6 in order to effectively manage the program.

Measurable Effectiveness:

The effectiveness of the measures will be evaluated following the pertinent activities, such as;

- ✓ The number of overflows reported.
- ✓ The frequency of routine maintenance and clearing activities.
- ✓ The number of overflow causes identified during inspections.
- ✓ The number of sites repaired whether an ordinance is developed to prohibit illicit connection.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-7: PROGRAM TO DETECT AND ELIMINATE FAILING SEPTIC SYSTEM.

The Municipality plans to develop a strategic program to detect and eliminate failing septic systems. The program shall include the appropriate procedures and actions required to avoid the pollution created by these system.

Measurable Effectiveness:

To measure the effectiveness of the program the Municipality shall create a system to allows the evaluation of the following parameters;

- ✓ An inventory of tanks and evidence when they were last serviced.
- ✓ The number of regular and maintenance inspection reminders issue to tank owners.
- ✓ The number of screen test and field test conducted.
- ✓ The number of post construction inspections conducted to ensure proper tank installation.
- ✓ The number of pump-outs conducted and routine maintenance work conducted.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

BMP-8: ILLICIT DISCHARGE/ILLEGAL DUMPING HOTLINE.

A hotline for citizens to report illegal dumping and suspicious discharges will be established during the first year after the MS4 General Permit is approved. The hotline will be advertised by means

of a loose leaf advertising the existence of the line and its purpose. This loose leaf will be distributed directly to citizen on mass activities. It will also be advertised by means of radio media announcement programmed by Minimum Control Measurements Number One and Number Two (MCM 1, MCM 2).

Measurable Effectiveness:

The effectiveness of this hotline will be measure by means of the following;

- ✓ Number of phone calls reported.
- ✓ Number of illicit discharges reported by means of the hotline.
- ✓ Number of illegal dumping reported by means of the hotline.
- ✓ Number of enforcement action taken by means of the hotline.

Time Frame:

See III-Implementation Schedule for Minimal Control Measurements Number three (MCM-3) (Illicit Discharges).

III. Implementation Schedule (General Time-Frame MCM-3)

YEAR 1

During the first year the municipality shall complete the storm water map land surveying identifying all parts of the actual storm water system in Puerto Rico Lambert Coordinate System. During this year the educational program commences and the establishment of a hotline will be completed.

Apartado 1385
Añasco, Puerto Rico 00610-1385
Tel.: (787) 826-3100
Fax: (787) 826-7000

YEAR 2

During the second year the Storm Water System Map will be completed identifying all component of existing system for urban areas designated as per US Census Urbanized Areas. During this year the Municipality will enact an enforcement ordinance and continue with educational program.

At this stage (mid year) the program for illicit discharges survey will commence.

YEAR 3

During this year the Municipality will work on continuing educational program and will complete survey of illicit discharges and commences the field inspection of high risk areas.

YEAR 4

During this year the municipality shall be working on inventories of illegal discharges, and illegal dumping. The educational program and inspection survey shall be continued and screening of identified sources shall commence. During this year the program shall have enforced some actions and/or replacement of illicit discharges sources.

YEAR 5

During this year the Municipality shall have the program working continuously and actions might be taken during past years that will provide the necessary data to enhance, amended and/or re-plan the program.

A final evaluation on the performance of SWMP will be conducted in order to file a continued permit renewal.

1.3.4 Construction Site Storm Water Run-off Control

I. Rationale

Construction sites constitute a significant source of sediment transport for an MS4. The importance of this source increases when the installation and maintenance of erosion and sediments controls are not utilized and/or not adequately enforced.

The Municipality of Añasco is undergoing significant construction activity; therefore a regulatory and enforcement program shall be established for both sediments and erosion controls at construction sites. These measures will follow an implementing plan and field inspection of construction sites in order to minimize to a maximum practicable extent the sedimentation of water bodies within the Municipal territory. The program to be developed will be targeted toward construction developers, contractors, site operators, inspectors and engineers.

II. Minimum Measure Objective

The SWMP activities to be implemented within this minimum control measure will focus on developing, implementing and enforcing a program suitable to reduce erosion and sedimentation impact to water bodies from the construction activity, specifically those activities where land disturbances covers an area equal or greater than one acre.

A set of minimum erosion and sediment control requirement shall be established for construction sites that disturb an area of one or more acres. This set of rules and/or requirements will includes the planning, installation, inspection

and maintenance of the erosion and sediment control mechanism and/or barriers.

BMP-1: THE ENACTMENT OF ORDINANCE AND/OR OTHER REGULATORY MECHANISM

The SWMP shall include the development of an ordinance and guidance to enforce and encore all construction activities within a regulating frame which will actuate as a control system of erosion and sedimentation on construction sites.

Measurable Effectiveness:

Once the Ordinance establishing regulations and rules to control erosion and sedimentation on construction sites is enacted, the Municipality will evaluate its effectiveness by means of the following data gathering:

- ✓ The Number of enforcement actions taken.
- ✓ The number of stop orders given.
- ✓ The number of bounding requirement set.

Time Frame:

The Municipality shall develop and enact as law, the Ordinance for erosion and sedimentation control within the first 24 months of the General Permit approval.

BMP-2: CONTRACTOR CERTIFICATION INSPECTOR TRAINING

Under this management practice the Municipality of Añasco will develop a Certification Program aiming to the education of contractors and inspection personnel about the proper selection, installation,

inspection and maintenance of erosion and sedimentation control practices. This will ensure compliance with codes and regulation.

Measurable Effectiveness:

Under this best management practice the Municipality will examine the effectiveness once the implemented program test for the following data:

- ✓ The number of certified contractors.
- ✓ The number of training and certification programs offered.
- ✓ Whether an Ordinance requiring certification was developed.
- ✓ The number of certified inspection.
- ✓ The number of sites inspected.

Time Frame:

The Certification Program shall be developed during the first year of permit term and implemented during the first six month of the second year of the permit term. The goal is to achieve an eighty percent (80%) compliance of contractors at construction sites by the end of the third permit term.

BMP-3: EROSION AND SEDIMENTATION CONTROLS

The Municipality by means of enacted rules and regulations based on Ordinances should develop and implement erosion and sedimentation controls on all construction sites. The program may require any of the following prevention mechanism:

- ✓ Storm drains inlets protections.
- ✓ Spill prevention and control plan.
- ✓ Sodding.
- ✓ Silt fences.

Apartado 1385
Añasco, Puerto Rico 00610-1385
Tel.: (787) 826-3100
Fax: (787) 826-7000

- ✓ Sediment Basins.
- ✓ Sediment traps.
- ✓ Vehicle maintenance and tire washing areas.
- ✓ Sediment filters and chambers.
- ✓ Preservation of Natural vegetation.
- ✓ Land grading best practices.
- ✓ Geo-textiles installation.
- ✓ Construction site waste management.
- ✓ Dust Controls.
- ✓ Berm Filters.
- ✓ Construction entrances controls.
- ✓ Infiltration ponds & pollutant collectors.

Measurable Effectiveness:

To achieve the most effective evaluation of program performance the goal is to gather the following data:

- ✓ The number of storm drain inlets protected.
- ✓ The number of construction sites implementation of one or more of the control mechanism.
- ✓ The amount of sediment collected.
- ✓ The frequency of inspections and maintenance of storm drain inlets.
- ✓ The number of control mechanism used at construction site.
- ✓ The frequency of inspection and maintenance of control mechanism.
- ✓ The frequency of inspection of construction sites.
- ✓ The achieved compliance of construction sites with codes and regulations.

Time Frame:

The Municipality shall implement an inspection and maintenance evaluation of construction sites within the second term of permit issuance. It shall also gather information reports and data on compliance achievement of construction sites at the end of the third term of permit. This information and/or data shall be used to evaluate the performance of the SWMP for the MS4.

BMP-4: CONSTRUCTION SITE WASTE CONTROL.

The Municipality will develop and implement a program to control construction waste in order to prevent undesirable practices that negatively impact storm water runoff. The program shall focus on what is known as the Consolidated Permit by the local EQB (Sedimentation and Erosion, Air Pollution Sub-soil Injection Permits;

Measurable Effectiveness:

The effectiveness of this management practice will focus on;

- ✓ The frequency of inspection of construction sites.
- ✓ The percentage of achievement of construction sites compliance with rules and ordinances.
- ✓ The number of report informing compliance with rules and ordinances
- ✓ The number of enforcement action from official personnel against construction sites activities.
- ✓ The number of penalties taken from enforcement actions.
- ✓ The number of correction measures of construction sites.

Time Frame:

This management practice shall be implemented during the third term of General Permit approval. Data obtained from program implementation shall be available on final achievement reports by the end of the fourth year term.

BMP-5: CONSTRUCTION PLANS AND PERMITS REVIEW.

A pre-construction activity shall be part of this MCM to require all construction on schedule the submittal of a copy of the official site plans for the review of enforcing personnel. This review will acquaint enforcing and inspection personnel of the erosion and sedimentation permits in order to facilitate official track of construction process.

Measurable Effectiveness:

The Municipality shall evaluate the effectiveness of this measure by the following mechanism:

- ✓ The number of inspectors trained.
- ✓ The number of inspections and/or reviews performed.
- ✓ The number of complains and/or not compliance permit reported from citizens reporting illegal actions.

Time Frame:

The time frame to implement this practice shall take place at the end of the fifth year of General Permit approval. This is due to the necessity of new trained personnel which needs to be schedule within Municipal budget.

1.3.5 Post Construction Storm Water Runoff Control in New Development / Re-Development

I. Rationale

The SWMP plans under the post-construction stage of new developments / re-development to encourage the construction developer and designer to promote structural run-off controls in new developments and a lot treatment to handle storm water by disconnecting imperious surfaces.

II. Minimum Measure Objective

The objective and/or goal of this minimum control measure is to reduce and improve the quality of storm water run-off by disconnecting and/or eliminate impervious surfaces and install and maintain structural storm water controls.

BMP-1: REDUCE DIRECTLY CONNECTED IMPERVIOUS SURFACED IN NEW DEVELOPMENTS AND RE-DEVELOPMENTS PROJECTS BY REQUIRE PLANTING STRIPS BETWEEN SIDEWALKS AND CURBS AND GUTTERS.

This measure will reduce by twenty percent (20%) impervious road surfaces, relative to the traditional scenario. This reduction will take place within the fourth term of the permit. This measure also will reduce the storm water discharged from sites and increases the time of concentration of run-off from sites.

Measurable Effectiveness:

The measurable effectiveness will be obtained by analyzing the following data:

- ✓ Number of new developments/re-developments evaluated by enforcement official.
- ✓ The total area accrued for filtering by implementing this measure.
- ✓ The total area of impervious area converted to previous area.

Time Frame:

The measurement shall be implemented during the third term of the General Permit approval and data gathered within the fifth term of the General Permit approval.

BMP-2: DEVELOP AND IMPLEMENT A STORM WATER ORDINANCE AND GUIDANCE THAT INCLUDE PERFORMANCE STANDARDS DESIGNED TO CONTROL RUN-OFF IMPACT.

The Municipality shall develop new ordinance delimiting performance standards specifying percent removal of post development total suspended solids, require maintenance of ground water recharge rates and limits run-off volumes and rates so that receiving waters are not negatively impacted.

Measurable Effectiveness:

The effectiveness of this measure will be counted on the following:

- ✓ The projected amount of imperviousness cover reduced under the ordinance.
- ✓ The number of enforcement action occurring as a result of the ordinance.

- ✓ The acreage of reduction of impervious surfaces due to the enforcement of the new ordinance.

Time Frame:

This new ordinance shall be enacted within the third term of the General Permit approval. The implementation of the measures and/or rules following the ordinances shall take place one year after the enactment of the ordinance.

BMP-3: DRY EXTENDED DETENTION POND PROGRAM

The Municipality shall develop a dry detention pond to collect runoff pollutants and sediments to allow them to settle. Actually the Municipality of Añasco has developed a detention pond within the industrial park to control high erosion and sedimentation of existing streams within the area. Other pond are planned to contribute on the pollutant and sedimentation reduction of water bodies

Measurable Effectiveness:

The effectiveness will follows on and analysis of the following:

- ✓ The dry pond effluent water quality.
- ✓ The number of dry ponds built.
- ✓ The acreage of land drained by the dry ponds.
- ✓ The reduction in run-off quantity.

Time Frame:

Actually the Municipality has completed, in June 2008, a dry detention pond. The effectiveness of this pond is to be evaluated during the second term of the permit. During the last term of the permit the Municipality will have a report on the efficiency of the measure and an estimate and schedule for new ponds construction.

BMP-4: PROMOTION OF BEST FILTRATION PRACTICES.

The Municipality shall develop a program on technical information focused on developers and contractors to encourage best filtration practices such as;

- ✓ Bio-retention.
- ✓ Inspection and maintenances.
- ✓ Conservation of easements.
- ✓ Dry extended detention ponds.
- ✓ Grassed swales.
- ✓ Planting strips.
- ✓ Infiltration basins.
- ✓ On-lot treatment.
- ✓ Open space design
- ✓ Porous pavements.
- ✓ Urban forestry.
- ✓ Zoning rules.
- ✓ Better sites design.
- ✓ Infrastructure planning.

These best filtration practices shall be promoted on contractors and general public seminars as well its inclusion as an alternatives in design regulations.;

Measurable Effectiveness:

Being this measure a non structural one its effectiveness shall be measure by counting on;

- ✓ The number of seminar promoted to encouragement its use.
- ✓ The number of practices accomplished on construction sites.

- ✓ The acreage of impervious surfaces on the ground of this measure.

Time Frame:

The Municipality expects to be prepared to handle and implement this measure during the last year of permit term.

1.3.6 Pollution Prevention/Goal Housekeeping for Municipal Operations.

I. Rationale

Under this management practice the Municipality shall focus in the development of a program of operation and maintenance to prevent and/or reduce pollutant from storm water run-off due to operational processes of Municipal activities. Effective management of storm water should start with Municipal employees; who shall be trained and educated about pollutant prevention and reduction from municipal operational activities, such as, motor pool maintenance, parks and open spaces maintenance, building and drainage system maintenance.

Municipal crews training and education as well as compliance with best management practices can set an example for citizens. Actually the Municipality of Añasco operates a motor pool for vehicles and heavy equipment maintenance, a Municipal waste dumping station, an MS4's storm water system and various buildings and construction projects which need to be incorporated in NPDES compliance.

II. Minimum Measure Objective

As part of this management practice the storm water management program shall focus on developing, implementing and enforcing an operation and maintenance program to reduce or eliminate the impact of storm water pollution from Municipal operation such as open space maintenance, motor pool vehicle and building maintenance and storm sewer system operation and maintenance during the permit term, In doing so the Municipality not only sets it self as a good example for citizens but in the specific case of Añasco will;

- ✓ Encourage citizen, commercial and industrial to implementing effective practices in their particular activities.
- ✓ Prevent pollution contamination in water bodies and eventually the shoreline which constitute one of Añasco best recreational resources.
- ✓ Promotes better commercial, recreative and subsistence of fishing.
- ✓ Enhances and promote the opportunity of recreational swimming and boat recreational navigation.
- ✓ Reduces flood damages, especially in a broad flood zone like Añasco.
- ✓ Reduce the contamination of potable water sources.
- ✓ Enhances and increases esthetics values of the community.
- ✓ Reduces health risks.

BMP-1: TRAINING PROGRAM FOR MUNICIPAL MAINTANANCE CREWS.

Maintenance Municipal crews use substantial amounts of water and chemicals, the combination of which has led to elevated levels of nutrients and toxics in receiving waters. Therefore maintenance Municipal crews shall attend workshop on operational consequences of pollutants and how they could control and maintain their operational system to prevent and/or reduce pollutants in storm water run-off.

Measurable Effectiveness:

The effectiveness of this management practice will be focus on the:

- ✓ Number of employees attending seminars and/or workshops.
- ✓ Number of workshops organized during the permit term.
- ✓ Certifications obtained by employees.

Apartado 1385
Añasco, Puerto Rico 00610-1385
Tel.: (787) 826-3100
Fax: (787) 826-7000

- ✓ Pollutant reduction on the grounds of seminars or workshop practices applications.

Time Frame:

The workshop shall be implemented during the second year of permit term, and continuing seminars shall be held twice per year there after.

BMP-2: VEHICLE MAINTENANCE AND WASHING PROGRAMS.

The Municipality shall develop and implement an educational program on pollution prevention measures to outreach and train general public businesses operators and Municipal fleet operators on water quality impact of outdoor washing and fleet maintenance.

Measurable Effectiveness:

To measure the effectiveness of this program the Municipality shall evaluate:

- ✓ The number of employees trained on pollution of motor pool maintenance activity.
- ✓ The number of spills reported.
- ✓ The number of vehicle washing areas.
- ✓ The number of rewards for cleaning less on a reward program with best management practices requirement

Time Frame:

The program shall be implemented during the second year of permit term.

BMP-3: PARKING LOTS AND STREET CLEANING PROGRAM

The Municipality shall develop procedures for pavement cleaning practices like street sweeping and vacuuming as a regular basis to

minimized pollutant discharges to receiving waters. This practice will remove sediment, debris and other pollutants that constitute potential source of pollution.

Measurable Effectiveness:

- ✓ The number of scheduled road cleaning
- ✓ The amount of debris collected from street vacuum cleaning.
- ✓ The total amount of solid suspended in run-off.

Time Frame:

This measure shall be implemented the first year of permit term.

BMP-4: STORM DRAIN SYSTEM CLEARING PROGRAM.

Regular inspections and clearing of storm drains systems to reduce the amount of pollutant trash and floatable shall be implemented as a management practice. It shall be applied to materials and waste handling areas, paved and vegetated areas, water ways, open ditches, and new developments. A summary report shall include repairs and replacement measures;

Measurable Effectiveness:

- ✓ Length of storm wash pipe cleaned.
- ✓ The number of inlets inspected and cleaned.
- ✓ The amount of trash and sediment removed during cleaning process.

Time Frame:

This measure shall be implemented during the second term of permit, and shall continuously operate every six months.