### The City of Alamo Heights

## Storm Water Management Plan

Implementation Program



#### Storm Water Management Plan Implementation Program

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#### Overview

The Federal Water Pollution Control Act was passed in 1972. After the law was amended in 1977, it became commonly known as the Clean Water Act<sup>1</sup>. The Act established the structure for federal regulation of pollutant discharges into the waters of the United States, authorized the Environmental Protection Agency (EPA) to implement pollution control programs, extended the requirement to establish standards for surface water contaminants, and made it unlawful to discharge unpermitted point source pollutants into navigable waters. The Act also established funding for construction of sewage treatment plants and promoted planning to address non-point source pollution. In order to reduce storm water pollution, amendments were made to the Clean Water Act in 1987, requiring storm water discharges to be permitted in two phases.

Phase 1 applied, among other things, to larger cities with separate storm water sewer systems. The regulations required these cities to obtain National Pollutant Discharge Elimination System (NPDES) permits. The permit process imposed controls on the cities to reduce pollution in storm water discharges.

Phase 2 applies to smaller cities. In 1999, the EPA issued final regulations for Phase 2. The Texas Commission on Environmental Quality (TCEQ) issued the Texas Pollutant Discharge Elimination System (TPDES) General Permit Number TXR040000 (General Permit) for Phase 2 Storm Water on August 13, 2007 in order to create a mechanism for non-Phase 1 Texas cities with populations of over 1,000 to come into compliance with the federal regulations.

The processes of applying for coverage under and maintaining conformance to the General Permit begin with submitting two documents to the TCEQ. The first document is a form provided by the TCEQ, called a Notice of Intent (NOI). The second document is this document, which you are reading. It is the proposed Implementation Program for the Storm Water Management Plan (SWMP).

The Implementation Program for the SWMP proposes to reduce storm water pollution by increasing the city's control of pollution sources. The Implementation Program provides maps (see Tab 3) and photos (see Tab 3), which identify many of the points where storm water is discharged from the city to other municipalities.

The plan must be fully implemented within 5 years of the TCEQ's issuance of the General Permit. The general schedule is as shown:

August 13, 2007 The TCEQ issued the General Permit.

February 11, 2008 Submit NOI and a SWMP Implementation Program to the TCEQ.

1. Publish notice of the executive director's preliminary determination on the NOI and SWMP.

<sup>&</sup>lt;sup>1</sup> Current efforts to reduce the pollution found in municipal storm water discharges are substantially driven by federal legislation. As expected with government programs, there are many special terms and acronyms that apply to the topic of storm water pollution. Therefore, a list of definitions from the TPDES General Permit is provided behind Tab 10.

- 2. Receive public comment for at least 30 days. Hold a public meeting if a high level of interest exists. TCEQ staff will facilitate the meeting.
- 3. File a copy and an affidavit of the publication of notice(s).
- 4. The TCEQ shall approve, approve with conditions, or deny the NOI.

#### August 13, 2012 The SWMP must be fully implemented.

A detailed, comprehensive schedule for the Implementation Program is provided behind Tab 8 of this document.

The Implementation Program proposes the means to develop, to implement, and to enforce a plan to reduce the discharge of pollutants to the maximum extent practicable (MEP). It identifies seven Minimum Control Measures (MCMs), which are required to be addressed by the General Permit:

- 1. **Public Education and Outreach** Distribute educational materials and/or provide presentations to inform citizens about storm water pollution. See Tab 1.
- 2. **Public Participation/Involvement** Provide opportunities for citizens to participate in program development and implementation. See Tab 2.
- 3. Illicit Discharge Detection and Elimination Detect and eliminate illicit discharges to the storm system. See Tab 3.
- 4. Construction Site Storm Water Runoff Control Control erosion and sediment in non-municipal construction activities. See Tab 4.
- Post-Construction Storm Water Management in New Development and Redevelopment – Control pollutant discharges from new development and redevelopment areas. See Tab 5.
- 6. **Pollution Prevention/Good Housekeeping** Prevent or reduce pollutant runoff from municipal operations. See Tab 6.
- 7. **Municipal Construction Activities** (optional) Control erosion and sedimentation on municipal projects. See Tab 7.

The Implementation Program proposes scheduling for each MCM and establishes criteria for measuring the success of the implementation. The detailed proposals for each MCM are provided behind tabs which are numbered correspondingly.

The city must maintain records on the SWMP, submit an annual report to the TCEQ regularly, and submit other records to the TCEQ when requested. The records must include documentation pertaining to the effectiveness of BMPs and shall be included in the annual reports as required in Part IV.B.2. of the General Permit. The records must also be kept available to the public. Any changes to the SWMP must be included in the annual report as described in Part IV.B.2. of the General Permit and must meet the requirements of Part II.D.3. of the General Permit. The city must report non-compliance with the General Permit to the TCEQ and maintain accurate records at TCEQ offices.



#### Minimum Control Measure No. 1: Public Education and Outreach on Storm Water Impacts

The city will develop and implement a public education program which will distribute educational materials to the community and/or conduct equivalent outreach activities that will be used to inform the public. The city will direct its education and outreach efforts toward multiple segments of the population to promote a broad understanding among those who have the potential to impact storm water quality. Efforts will be directed toward residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel. This MCM will inform the public about the impacts that storm water runoff can have on water quality, hazards associated with illegal discharges and improper disposal of waste, and steps that can be taken to reduce pollutants in storm water runoff.

The city shall document the activities performed and materials used to fulfill this MCM. Documentation shall be detailed enough to demonstrate the amount of resources used to address each group. This documentation shall be included in the annual reports which are required in Part IV.B.2. of the General Permit.

Discussions of the Best Management Practices (BMPs) to be utilized in public education and outreach follow:

#### **BMP 1.1: Brochures and Fact Sheets**

**Description** – Develop or obtain informational brochures and fact sheets pertaining to the improvement and preservation of storm water quality. Distribute through city newsletter and/or utility mailings such as bills and notices. Place brochures at city hall. Coordinate with other nearby government offices and/or utilities to determine if resources might be shared in a productive manner.

#### Frequency and Target Population - The BMP will be directed toward:

- 1. residents through newsletter articles included twice a year in the monthly newsletter sent with the water bill to all customers;
- 2. visitors by posting the SWMP on the city's website;
- 3. **public service employees** by posting the SWMP on the city's website and through the employee manual training;
- 4. **businesses** through newsletter articles included twice a year in the monthly newsletter sent with the water bill to all customers;
- 5. **commercial and industrial facilities** through newsletter articles included twice a year in the monthly newsletter sent with the water bill to all customers; and
- 6. **construction site personnel** through instructions attached to the building permit. The instructions will require contractors requiring building permits to prominently display a particular brochure or fact sheet on the project site in plain view for the workers to read.



Topics — Brochures and fact sheets will educate residents on how to maintain their homes in an environmentally-friendly manner including proper fertilizer, herbicide, and pesticide use and proper waste disposal. Other brochures and fact sheets will address commercial, industrial, and institutional pollution issues.

Evaluation Criteria for Effectiveness – The number and frequency of mailings and publishings shall be recorded in the document file.

Implementation Start Date – The city will publish its first newsletter article before July 1, 2008 and post similar information on the city's website before December 31, 2008.

#### BMP 1.2: Speakers to Address Public Groups

**Description** – Invite environmental professionals, such as TCEQ or EPA representatives or others, to make presentations at city council meetings on preventing storm water pollution.

Frequency - Speakers will be invited annually.

Target Population – The BMP will be directed toward all of the following who attend city council meetings including residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel.

Evaluation Criteria for Effectiveness — The number, frequency, and topic of the presentation shall be recorded in the document file.

Implementation Start Date - The city will have its first speaker address a city council meeting between July 1, 2008 and December 31, 2008.

#### **BMP 1.3: Public Service Announcement Planning**

**Description** – PSAs will be provided through the city's website and newsletter articles twice per year. The city will also explore coordination with other agencies and utilities to determine the feasibility of joining existing efforts.

**Frequency** – The website will be available continuously upon posting and the newsletter articles will be included in the monthly newsletter sent to every water customer at least twice per year.

Target Population – The BMP will be directed toward all of the following who have internet access or receive a monthly water bill including residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel.

Evaluation Criteria for Effectiveness – The number, frequency, and newsletter article topics shall be recorded in the document file.



Implementation Start Date – The city will publish its first newsletter article before July 1, 2008 and post similar information on the city's website before December 31, 2008.

#### BMP 1.4: School Book Cover Program

**Description** — Design storm water pollution prevention messages for school book covers. Distribute to local schools for student use.

Frequency – Distribute to schools once a year.

Target Population – The BMP will be directed toward residents.

Evaluation Criteria for Effectiveness – The number, frequency, and examples of the book covers issued shall be recorded in the document file.

Implementation Start Date – The city will make its first distribution by August 15, 2008 and will continue to make distributions once per year.

#### BMP 1.5: Drain Marking

**Description** – Locate appropriate stencils and/or markers with notices that discourage storm water pollution through public drains. Arrange for city staff to mark public storm drains with a durable paint, stamp, and/or plaque. Modify the city's drainage standards to require all new city inlets to be marked prior to the city's acceptance.

Frequency – If paint is used, check the messages once every two years and repaint the messages as needed. Do this during the calendar year in even years.

Target Population – The BMP will be directed toward anyone in the vicinity of the storm drain, potentially including residents, visitors, public service employees, businesses, commercial and industrial facilities, and construction site personnel.

Evaluation Criteria for Effectiveness – Record the location, date, stencil condition, and activity pertaining to each inlet in the document file.

Implementation Start Date – The city will mark all of its storm drain inlets and update its design standards for new inlets by September 30, 2010.



## Minimum Control Measure No. 2: Public Involvement/Participation

The city will develop and implement means for the public to become involved and to participate in the process of preventing or reducing storm water pollution. The city will seek to encourage citizens and business owners to invest themselves more into preventing and reducing storm water pollution and, thereby, to increase the effective resources in perceiving and in addressing storm water pollution problems. The city will, as a minimum, comply with any state and local public notice requirements when implementing this public involvement/participation program. The general rule will be to open opportunities to participate in the SWMP development and implementation to all people in the city.

The city shall document the activities conducted and materials used to fulfill this MCM. Documentation shall be detailed enough to demonstrate the amount of resources used. This documentation shall be retained in the annual reports which are required in Part IV.B.2. of the General Permit.

Discussions of the Best Management Practices (BMPs) to be utilized in public involvement and participation follow:

#### **BMP 2.1: Public Comment**

**Description** – The city will solicit public comment in its newsletter articles and receive it by email in person, or through the public works hotline at (210) 832-0516.

**Frequency** – Newsletter articles will be included in the monthly newsletter sent with the water bill twice per year.

Evaluation Criteria for Effectiveness – Copies of the newsletter articles shall be kept in the document file.

Implementation Start Date – The city will publish its first newsletter article before July 1, 2008.

#### **BMP 2.2: NOI and NOC Public Comment**

**Description** – Post this SWMP Implementation Program on the city's website and make it available in the public works office for public review. When comments from the TCEQ's Executive Director are received regarding this SWMP Implementation Program, publish in the city's official notice newspaper a notice that states that the comments have been received and that public review and comment are invited. Provide at least 30 days for public comment. In the event that significant public interest exists, host a public meeting that would be facilitated by the TCEQ and that would allow for public participation.



Frequency – This will occur once, when the NOI has been submitted and the initial comments are received from the Executive Director. It will also occur on a recurring basis at least to the extent required by the TCEQ when NOCs are submitted.

Evaluation Criteria for Effectiveness – Record copies of the Executive Director's comments, the public newspaper notice, public meeting records, and any written public comments in the document file.

Implementation Start Date - Publish the newspaper notice inviting public review and comment within two weeks of receipt of the Executive Director's preliminary determination (comments). Host the public meeting within 90 days of receipt of the Executive Director's preliminary determination (comments). The same time frames will apply to the NOC process if required by the TCEQ.

#### **BMP 2.3: Recurring Public Comment**

**Description** — Post this SWMP Implementation Program in on the city's website and make it available in the public works office for ongoing public review. Provide regular opportunities for attendees of city council meetings to address the council on matters that could include the SWMP and its Implementation Program. The regular "Citizens to Be Heard" item on the agenda (or its equivalent) will satisfy this requirement.

**Frequency** – This will occur approximately once per month, according to the regular city council meeting schedule.

Evaluation Criteria for Effectiveness – Record copies of city council minutes and supplemental documents, if any, in the document file.

Implementation Start Date - The city will receive recurring comment after the initial comment period is complete. This schedule is not controlled by the city, but is dependent on when the TCEQ review of the NOI is completed. However, it is estimated that the opportunity for public comment will commence about July 1, 2008.

#### **BMP 2.4: Volunteer Projects**

Description – The city currently supports the annual "Basura Bash" which is a large volunteer group that collects litter in the Olmos Basin. The city provides solid waste trucks and staff to pick up the collected litter and take it to the landfill. Unless delayed by weather conditions, the event is normally scheduled each Spring and will take place on March 29, 2008 this year. The city encourages other organizations interested in sponsoring similar events to combine forces and/or coordinate their efforts with this established annual event. This year the Goldsbury Foundation, another volunteer organization that expressed interest in collecting litter in the Olmos Basin, is coordinating their effort with the annual Basura Bash to maximize the results of their volunteer work.



Frequency — The frequency of projects will vary depending on climate variations, flood conditions, and the timing of pollution accidents or events.

Evaluation Criteria for Effectiveness -Record any project event, the participants, and the accomplishments with a form and possibly photos in the document file.

Implementation Start Date – The city will continue to support the annual Basura Bash and work with other volunteer organizations that are interested in increasing stormwater quality.



## Minimum Control Measure No. 3: Illicit Discharge Detection and Elimination

The city will develop and implement a program to detect and to eliminate illicit discharges to the MS4. The program will include an ordinance. This MCM specifies the techniques to be used to detect illicit discharges, provides actions for eliminating the illicit discharges, and provides the basis for establishing an ordinance. The ordinance is, to the extent allowable under state and local law, to establish enforcement procedures for removing the source of an illicit discharge.

The following non-storm water flows (from lists in Part II.B and Part VI.B of the General Permit) do not need to be considered as illicit discharges requiring elimination unless the Operator of the MS4 or the Executive Director identifies the flow as a significant source of pollutants to the MS4:

- 1. water line and fire hydrant flushing (excluding discharges of hyperchlorinated water, unless the water is first dechlorinated and discharges are not expected to adversely affect aquatic life);
- 2. runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources;
- 3. discharges from potable water sources;
- 4. diverted stream flows:
- 5. rising ground waters and springs;
- 6. uncontaminated ground water infiltration;
- 7. uncontaminated pumped ground water;
- 8. foundation and footing drains;
- 9. air conditioning condensation;
- 10. water from crawl space pumps;
- 11. individual residential vehicle wash water;
- 12. external building wash water;
- 13. flows from wetlands and riparian habitats;
- 14. dechlorinated swimming pool discharges;
- 15. pavement and street wash water;
- 16. water used to control dust:
- 17. discharges or flows from fire fighting activities (fire fighting activities do not include washing of trucks, run-off water from training activities, test water from fire suppression systems, and similar activities);
- 18. other allowable non-storm water discharges listed in 40 CFR ' 122.26(d)(2)(iv)(B)(1);
- 19. non-storm water discharges that are specifically listed in the TPDES Multi Sector General Permit (MSGP) or the TPDES Construction General permit (CGP); and
- 20. other similar occasional incidental non-storm water discharges.

The listed sources are not expected to be significant sources of pollutants because of the nature of their discharges. Consequently, no special controls or conditions are established.

Any changes to the SWMP must be included in the annual report as described in Part IV.B.2. of the General Permit and must meet the requirements of Part II.D.3. of the General Permit. The city shall develop inspection forms and document MS4 inspections and the results of the inspections.



This documentation shall be retained in the annual reports which are required in Part IV.B.2. of the General Permit

Discussions of the Best Management Practices (BMPs) to be utilized in Illicit Discharge Detection and Elimination follow:

#### BMP 3.1: Storm Sewer Map

**Description** – The city has begun to map the storm sewer system. The preliminary map, with its source cited, is found in this section (Tab 3) following the list of BMPs.

The final map will include the location of all outfalls, the names and locations of all waters of the U.S. that receive discharges from the outfalls, zones pertaining to inspection schedules, and additional information required to implement the SWMP. The source of information used to develop the final storm sewer map will be cited on the map. A description of how the outfalls were verified will be developed with photos, where possible.

Photos of some outfalls and other significant storm conveyance features are keyed to the preliminary map (Tab 3) and are found following the map within the same section (Tab 3). The Storm Sewer Map will be updated periodically based on inspection records and construction drawings for recently completed projects that affect the drainage system.

**Frequency** – The Storm Sewer Map will be revised every two years in even-numbered years.

**Evaluation Criteria for Effectiveness** – At least one copy of the completed/revised Storm Sewer Map, marked with the latest revision date, shall be recorded in the document file.

**Implementation Start Date** – The city will plan by making site visits, performing surveys, and/or reviewing construction documents from April 1, 2008 through September 30, 2008. The city will issue its first complete edition of the Storm Sewer Map by December 31, 2008. The map will be updated every two years thereafter.

#### **BMP 3.2: Illicit Discharge Detection Plan**

**Description** – The city will write a plan listing techniques to be used to detect illicit discharges and will include forms to be used to document the results of the inspection. The plan will identify city staff that will perform the inspections. Inspection techniques may include: visual observation, conventional photography, in-pipe photography, sampling and analysis of water quality and water characteristics, dye testing, and smoke testing. The plan will also provide actions for eliminating the illicit discharges and provide the basis for establishing an ordinance. The city will use the Storm Sewer Map to develop an inspection plan. The map will be used to divide the city into inspection zones. The city will determine a regular time each year for each zone to be inspected for illicit discharges.



**Frequency** – each zone identified on the completed Storm Sewer Map will be assigned an inspection season, which is a portion of the calendar year during which the zone's storm water conveyance system will be inspected. The inspections will occur annually during dry weather, when illicit discharges are easier to identify. Allowance shall be made for the fact that weather does not always permit inspections to occur at the scheduled times.

**Evaluation Criteria for Effectiveness** – The city shall file completed inspection forms documenting MS4 inspections and the results of the inspections in the document file with photos and other supporting documents as appropriate.

**Implementation Start Date** – The city will plan for implementation during the calendar year 2008. The first inspections of all inspection zones, based on the first edition of the Storm Sewer Map, will be completed by December 31, 2009 and will continue annually thereafter.

#### **BMP 3.3: Illicit Discharge Ordinance**

**Description** – The city shall pass an ordinance which, to the extent allowable under state and local law, will identify illicit discharges, prohibit illicit discharges, and establish enforcement procedures for removing the sources of illicit discharges.

**Evaluation Criteria for Effectiveness** – The city shall file a copy of the adopted ordinance in the city code book and in the document file.

**Implementation Start Date** – The city will develop and adopt the ordinance during the calendar year 2009. The ordinance, which will prohibit and eliminate illicit discharges, will be adopted by city council by December 31, 2009 and implemented by January 31, 2010.

#### **BMP 3.4: Illicit Discharge and Dumping Hotline**

**Description** – The city shall establish a phone number for reporting illicit discharges and publish the phone number in places that are readily accessible to the public. At the special number, the phone will be answered by trained city staff who will be equipped with forms for recording incoming phone calls and trained in how to refer the information for action. A recording system will accept phone calls after hours.

**Evaluation Criteria for Effectiveness** – Completed forms, showing the nature of incoming phone calls and the resulting actions will be filed in the document file.

**Implementation Start Date** – The city will plan for hotline implementation between January 1, 2010 and June 30, 2011. The hotline will be implemented by July 1, 2011.





Photo 1: HEB Drainage Outfall Looking East



Photo 2: Looking West Toward San Antonio River



Photo 3: Olmos Dam Outfall Looking Northwest

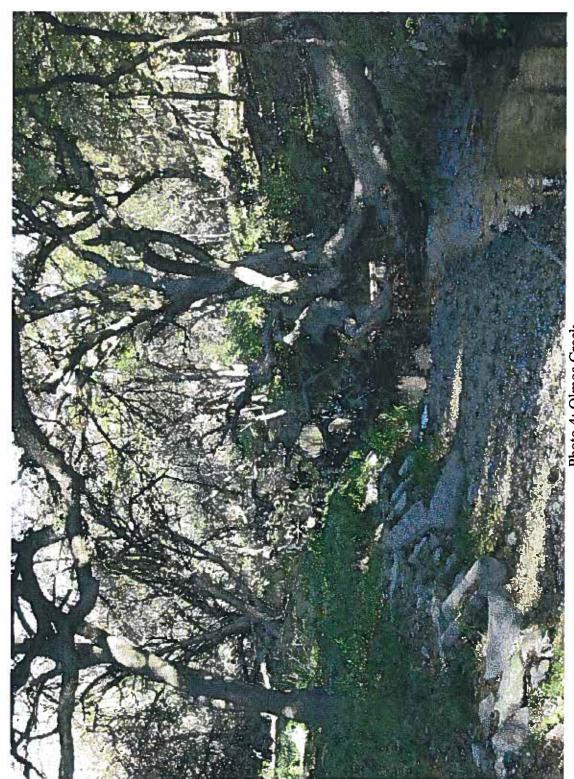


Photo 4: Olmos Creek



Photo 5: Tributary of Olmos Creek

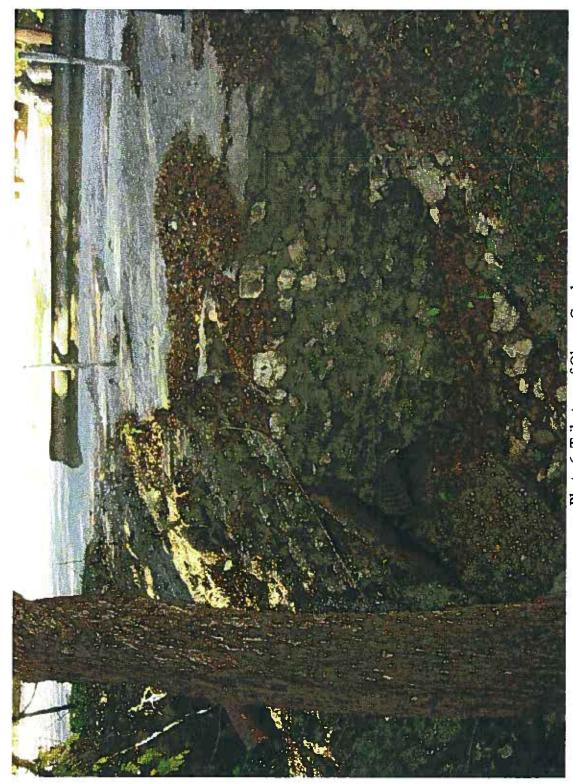


Photo 6: Tributary of Olmos Creek

#### Minimum Control Measure No. 4: Construction Site Storm Water Runoff Control

The city will, to the extent allowable under State and local law, develop, implement, and enforce a program to reduce pollutants in construction storm water runoff from projects that disturb areas of one or more acres of land or projects that are part of a larger common plan of development or sale that would disturb one or more acres of land. The plan will not pertain to sites where the construction site operator has obtained a waiver from permit requirements under NPDES or TPDES construction permitting requirements based on a low potential for erosion. The program will include the development and implementation of an ordinance requiring erosion and sediment controls with sanctions to ensure compliance to the extent allowable under state and local law; requirements for construction site contractors to control erosion and sediment; requirements for controlling construction waste; procedures for the city's review of site plans; procedures for receiving information and complaints; and procedures for the city to inspect construction sites and to enforce controls.

The city shall document the activities conducted and materials used to fulfill this MCM. This documentation shall be retained in the annual reports which are required in Part IV.B.2. of the General Permit.

Discussions of the Best Management Practices (BMPs) to be utilized in Construction Site Storm Water Runoff Control follow:

#### **BMP 4.1: Technical Manual for Construction Runoff**

**Description** – The city will develop a manual to explain appropriate erosion and sedimentation controls for construction sites. The manual will provide alternative solutions and give guidance as to when those alternatives are appropriate. The manual will also establish minimum control thresholds and proper maintenance criteria. The manual will be developed with the intent of establishing consistency with other small cities in the region and providing a streamlined approach that will be user-friendly for designers and contractors.

**Frequency** – The technical manual will be posted on the city's web site. Some hard copies will also be available at city offices with building permits.

**Evaluation Criteria for Effectiveness** – The city council will officially adopt the technical manual. The manual distribution will be incorporated into the building permit process. A copy of the completed technical manual will be recorded in the document file.

**Implementation Start Date** – The city will plan and develop the manual from October 1, 2008 through June 30, 2009. Developers and contractors will be required to conform to the manual beginning January 1, 2010. The manual will be reviewed for updates at least every three years.



#### BMP 4.2: Site Plan Review Program

**Description** – Develop a program that will require city staff to review site plans and storm water pollution prevention plans for eligible projects. The review process will be attached to the building permit process and will ensure that proper measures are incorporated into the construction procedures that will control erosion, sedimentation, and other sources of storm water pollution. The plan will identify city staff to perform the reviews.

Frequency – All eligible projects will be reviewed.

**Evaluation Criteria for Effectiveness** – Review all eligible projects. Execute review forms and record results with photos and other pertinent materials in the document file.

**Implementation Start Date** – The city will plan and develop the program during calendar years 2009-10. City staff will be required to follow the program beginning July 1, 2011. The program will be reviewed for updates at least every three years.

#### **BMP 4.3: Construction Site Inspection Program**

**Description** – The city will develop procedures for inspecting construction sites for erosion, sedimentation, and other sources of storm water pollution. The program will identify which city staff will perform inspections. It will provide a protocol for inspectors and develop inspection forms.

**Evaluation Criteria for Effectiveness** – Inspect all eligible projects. Resolve all instances of non-compliance. Record copies of completed inspection forms and related documents, such as photos, in the document file.

**Implementation Start Date** – The city will plan and develop the program during calendar years 2009-10. City staff will be required to follow the program beginning July 1, 2011. The program will be reviewed for updates at least every three years.

#### BMP 4.4: Construction Storm Water Management Ordinance

**Description** – The city will adopt an ordinance which, to the extent allowable under State and local law, will establish eligibility for construction sites to be inspected and enforced by the city; establish requirements for contractors to reduce pollutants in construction storm water runoff; specify sanctions to ensure compliance; establish requirements to control construction waste; and require city review of site plans.

**Evaluation Criteria for Effectiveness** – Record copies of adopted ordinance and supplemental documents, if any, in the document file.



**Implementation Start Date -** The city will develop the ordinance during calendar years 2009-10. The ordinance will be effective as of December 31, 2010.

#### **BMP 4.5: Construction Runoff Hotline**

**Description** — The city shall establish a phone number for reporting illicit discharges and construction erosion and sedimentation and publish the phone number in places that are readily accessible to the public. At the special number, the phone will be answered by trained city staff who will be equipped with forms for recording incoming phone calls and trained in how to refer the information for action. A recording system will accept phone calls after hours.

**Evaluation Criteria for Effectiveness** – Completed forms, showing the nature of incoming phone calls and the resulting actions will be filed in the document file.

**Implementation Start Date** – The city will plan for hotline implementation during calendar years 2009-10. The hotline will be implemented by July 1, 2011.



#### Minimum Control Measure No. 5: Post-Construction Storm Water Management in New Development and Redevelopment

The city will, to the extent allowable under state and local law, develop, implement, and enforce a program to address storm water runoff from eligible new development and redevelopment projects. The program will apply to projects that disturb one acre of land or more and smaller projects that are part of a larger common plan of development or sale that will result in a total disturbance of one or more acres. The program will ensure that controls are implemented to prevent or to minimize water quality impacts. The program will include developing and implementing strategies which include a combination of structural and/or non-structural BMPs appropriate for the community. The city will adopt an ordinance to address post-construction runoff and will ensure adequate long-term operation and maintenance of the implemented BMPs.

The city shall document the activities performed and materials used to fulfill this MCM. This documentation shall be retained in the annual reports which are required in Part IV.B.2. of the General Permit.

Discussions of the Best Management Practices (BMPs) to be utilized in Post-Construction Storm Water Management follow:

#### BMP 5.1: Technical Manual for Post-Construction Runoff

**Description** – The city will develop a manual to explain appropriate erosion, sedimentation, and other pollutant controls for developed sites. The manual will provide alternative solutions and give guidance as to when those alternatives are appropriate. The manual will also establish minimum control thresholds and proper maintenance criteria. The manual will be developed with the intent of establishing consistency with other small cities in the region and providing a streamlined approach that will be user-friendly for developers.

**Frequency** – The technical manual will be scanned and made available on the city's web site. Some hard copies will also be available at city offices with building permits.

**Evaluation Criteria for Effectiveness** – The city council will officially adopt the technical manual. The manual distribution will be incorporated into the building permit process. A copy of the completed technical manual will be recorded in the document file.

**Implementation Start Date** – The city will plan and develop the manual during calendar years 2009-10. Developers and contractors will be required to conform to the manual beginning December 31, 2010. The manual will be reviewed for updates at least every three years.



#### BMP 5.2: Site Plan Review Program for Post-Construction Runoff

**Description** – Develop a program that will require city staff to review site plans and storm water pollution prevention plans for eligible projects. The review process will be attached to the building permit process and will ensure that proper measures are incorporated into the construction procedures that will control erosion, sedimentation, and other sources of storm water pollution. The plan will identify city staff to perform the reviews.

Frequency – All eligible projects will be reviewed.

**Evaluation Criteria for Effectiveness** – Review all eligible projects. Execute review forms and record results with photos and other pertinent materials in the document file.

**Implementation Start Date** – The city will plan and develop the program during calendar years 2009-10. City staff will be required to follow the program beginning July 1, 2011. The program will be reviewed for updates at least every three years.

#### BMP 5.3: Long-Term Inspection and Maintenance Plan for Post-Construction Runoff

**Description** – The city will establish a program for city staff to inspect post-construction storm water management controls on a long-term basis. The program will identify which city staff will perform the inspections, identify control performance criteria, establish the means for determining what maintenance would be required, and establish a protocol for inspectors to follow.

**Evaluation Criteria for Effectiveness** – Record copies of the forms, checklists, and written procedures in the document file.

**Implementation Start Date** – The city will develop the plan during calendar years 2009-10. City staff will be required to follow the program beginning July 1, 2011. The plan will be reviewed for updates at least every three years.

#### BMP 5.4: Post-Construction Storm Water Management Ordinance

**Description** – The city will adopt an ordinance which, to the extent allowable under State and local law, will establish requirements for storm water quality controls for post-construction conditions; specify sanctions to ensure compliance; establish long-term inspection and maintenance requirements; and require city review of proposed long-term storm water pollution prevention plans.

**Evaluation Criteria for Effectiveness** – Record copies of adopted ordinance and supplemental documents, if any, in the document file.

**Implementation Start Date -** The city will develop the ordinance during calendar years 2009-10. The ordinance will be effective as of December 31, 2010.



#### **BMP 5.5: Sediment Trap Planning**

**Description** – Inspect and study the storm sewer system to see if it is discharging an excess sediment load that could be contributing storm water pollutants. Review the system to see if there are any locations that would be suitable for feasible sediment traps. If appropriate, issue an NOC and develop a plan to design and to maintain sediment traps.

**Frequency** – Review the entire storm water drain system.

**Evaluation Criteria for Effectiveness** – Issue a brief report and record with photos and other pertinent materials in the document file.

**Implementation Start Date** – The city will complete a study of sediment conditions by December 31, 2009.

#### **BMP 5.6: Trash Trap Planning**

**Description** – Inspect and study the storm sewer system to see if it is discharging an excess trash load that could be contributing storm water pollutants. Review the system to see if there are any locations that would be suitable for feasible trash traps. If appropriate, issue an NOC and develop a plan to design and to maintain trash traps.

**Evaluation Criteria for Effectiveness** – Issue a brief report and record with photos and other pertinent materials in the document file.

**Implementation Start Date** – The city will complete a study of trash conditions by December 31, 2009



#### Minimum Control Measure No. 6: Pollution Prevention/Good Housekeeping for Municipal Operations

The city will develop and implement an operation and maintenance program with the goal of preventing or reducing pollutant runoff from municipal operations. Examples of municipal operations include, but are not limited to:

- 1. park and open space maintenance;
- 2. street, road, or highway maintenance;
- 3. fleet and building maintenance;
- 4. storm water system maintenance;
- 5. new construction and land disturbances;
- 6. municipal parking lots;
- 7. vehicle and equipment maintenance and storage yards;
- 8. waste transfer stations; and
- 9. salt/sand storage locations.

The program will provide employee training and a list of applicable BMPs. The training program will apply to all employees who are responsible for municipal operations that are subject to the pollution prevention/good housekeeping program. The training program will include training materials directed at preventing and reducing storm water pollution from municipal operations. The city will develop a maintenance plan for structural BMPs that will establish the frequency and manner of approach and preserve the effectiveness of the BMPs. The plan will also address the disposal of waste, including dredge spoil; accumulated sediments; and floatables. The program will include a list of municipal operations that are subject to the operation, maintenance, or training program developed under the conditions of this section; and municipally owned or operated industrial activities that are subject to TPDES industrial storm water regulations.

The city shall document the activities performed and materials used to fulfill this MCM. This documentation shall be retained in the annual reports which are required in Part IV.B.2. of the General Permit.

Discussions of the Best Management Practices (BMPs) to be utilized in Pollution Prevention/Good Housekeeping for Municipal Operations follow:

#### **BMP 6.1: Municipal Employee Pollution Prevention Manuals**

**Description** – The city will develop written manuals for city employee reference related to proper handling of processes which may impact storm water quality. The manuals will specify what methods will be used to reduce the potential for polluting, and what methods should be used to clean up spills and other types of pollution. These manuals will provide a basis for training as listed in BMP 6.2.

Frequency – See BMP 6.2 for training frequency. Update manuals every three years.



**Evaluation Criteria for Effectiveness** – Copies of the completed manuals shall be recorded in the document file. The manuals will also be located in areas that are accessible to the employees who are to use them. The manual locations will also be recorded in the document file.

**Implementation Start Date** – The city will plan and develop the manuals during calendar years 2009-10. Municipal employees will be required to conform to the manual beginning December 31, 2010. The manual will be reviewed for updates at least every three years.

#### **BMP 6.2: Municipal Employee Training**

**Description** – The city will develop a program to train city employees who handle processes which may impact storm water quality. The program will identify what process have the potential to impact storm water, identify what employees should receive training, specify what methods will be used to train them, and what forms and methods will be used to certify that the training has been accomplished.

**Frequency** – The city will provide training on an annual basis and when employees are introduced to pertinent processes.

**Evaluation Criteria for Effectiveness** – Copies of the completed program shall be recorded in the document file. The training completion documentation shall also be recorded in the document file.

**Implementation Start Date** – The city will plan and develop the training program from October 1, 2010 through June 30, 2011. Municipal employees will be required to learn the manual beginning July 1, 2011. The training program will be reviewed for updates at least every three years.

#### **BMP 6.3: Sediment Trap Planning**

**Description** – Inspect and study the storm sewer system to see if it is discharging an excess sediment load that could be contributing storm water pollutants. Review the system to see if there are any locations that would be suitable for feasible sediment traps. If appropriate, develop a plan to design and to maintain sediment traps.

**Frequency** – Review the entire storm water drain system.

**Evaluation Criteria for Effectiveness** – Issue a brief report and record with photos and other pertinent materials in the document file.

**Implementation Start Date** – The city will complete a study of sediment conditions by December 31, 2009.



#### **BMP 6.4: Trash Trap Planning**

**Description** – Inspect and study the storm sewer system to see if it is discharging an excess trash load that could be contributing storm water pollutants. Review the system to see if there are any locations that would be suitable for feasible trash traps. If appropriate, develop a plan to design and to maintain trash traps.

**Evaluation Criteria for Effectiveness** – Issue a brief report and record with photos and other pertinent materials in the document file.

**Implementation Start Date** – The city will complete a study of trash conditions by December 31, 2009.



#### Minimum Control Measure No. 7: Authorization for Municipal Construction Activities

This MCM would establish a city procedure for permitting its own eligible municipal construction activities instead of the default requirement to obtain coverage under TPDES General Permit TXR150000. However, this MCM is optional and the city has elected not to use this MCM. The reason for non-implementation of this MCM is twofold. First, most of the city's projects are too small to require permitting under TPDES General Permit TXR150000. Second, most of the city's projects are performed by contractors who are hired by the city. Conformance to TPDES General Permit TXR150000 is routinely made part of the construction contract.

If the city elects to implement this MCM in the future, it will be authorized within the regulated area to discharge storm water and certain non-storm water from construction activities where the permittee can meet the definition of "construction site operator" as defined in the General Permit. An NOC would have to be submitted notifying the executive director of the change. If implemented, the MCM would have to include:

- 1. a description of how construction activities will generally be conducted by the permittee so as to take into consideration local conditions of weather, soils, and other site specific considerations;
- 2. a description of the area that this MCM will address and where the permittee's construction activities are covered;
- 3. a general description of how a SWP3 shall be developed, according to Part VI.E. of the general permit, for each construction site; and
- 4. a description of how the permittee will supervise or maintain oversight over contractor activities to ensure that the SWP3 requirements are properly implemented at the construction site, or a description of how the permittee will make certain that contractors have a separate authorization for storm water discharges.

Since the city elects not to implement this MCM, no documentation will be required.



# City of Alamo Heights Storm Water Management Plan Implementation Program Schedule

MCM	ВМР	Title	Date
Public Education	1.1	Newsletter Article (twice a year)	7/1/2008
<b>Public Education</b>	1.3	SWMP Online	7/1/2008
<b>Public Involvement</b>	2.1	Invite Comment in Articles	7/1/2008
<b>Public Involvement</b>	2.2	Initial Public Comment	7/1/2008
<b>Public Involvement</b>	2.3	Recurring Public Comment	7/1/2008
Illicit Discharge	3.1	Storm Sewer Map	7/1/2008
<b>Public Education</b>	1.4	School Book Covers (annual)	9/1/2008
Public Education	1.2	Public Speakers (annual)	12/31/2008
Illicit Discharge	3.2	Illicit Discharge Detection Plan	12/31/2009
Post-Construction	5.5	Sediment Trap Planning	12/31/2009
City Operations	6.3	Sediment Trap Planning	12/31/2009
<b>Post-Construction</b>	5.6	Trash Trap Planning	12/31/2009
City Operations	6.4	Trash Trap Planning	12/31/2009
<b>Public Involvement</b>	2.4	Volunteer Projects (annual)	1/1/2010
<b>Public Education</b>	1.5	Drain Marking (every 2 years)	9/30/2010
Construction	4.1	Technical Manual	12/31/2010
Post-Construction	5.1	Technical Manual	12/31/2010
City Operations	6.1	Employee Manual	12/31/2010
Illicit Discharge	3.3	Illicit Discharge Ordinance	12/31/2010
Construction	4.4	Construction Mgt Ordinance	12/31/2010
Post-Construction	5.4	Post-Construction Ordinance	12/31/2010
Illicit Discharge	3.4	Illicit Discharge Hotline	7/1/2011
Construction	4.5	Construction Runoff Hotline	7/1/2011
City Operations	6.2	Employee Training	7/1/2011
Construction	4.2	Site Plan Review	7/1/2011
Post-Construction	5.2	Site Plan Review	7/1/2011
Construction	4.3	Site Inspection	7/1/2011
Post-Construction	5.3	Long-Term Inspection	7/1/2011

SegID: 1911	Upper San Antonio River From a point 600 meters (660 yards) downstream of FM 791 at Mays Crossing near Falls City in Karnes County to a point 100 meters (110 yards) upstream of Hildebrand Avenue at San Antonio in Bexar County				
Area		Category	Year First Listed		
1911_02	From 6 miles upstream of lower end of segment to confluence with Picosa Cr bacteria	5a	1996		
1911_03	From confluence with Picosa Creek to approx. 2.5 miles upstream of FM 536	J.	1330		
	bacteria	5a	1996		
1911_04	From approx. 2.5 miles upstream of FM 528 to Bexar CR 125				
	bacteria	5a	1996		
1911_05	From Bexar CR 125 to approx. 2 miles downstream confluence with Medina R. bacteria	5a	1996		
1911 OS			1990		
1911_00	From 3 miles upstream of confluence w/ Medina R. to confluence w/ Salado Cr				
•	bacteria	5a	1996		
1911_09	From confluence with Salado Creek to confluence with Sixmile Creek				
	bacteria	5a	1996		
	impaired fish community	5e	2006		
1911_10	From confluence with Sixmile Creek to confluence with San Pedro Creek				
	bacteria	5a	1996		
1911_11	Upper 8 miles of segment bacteria	5a	1996		



#### **Definitions and Acronyms**

The following explanations of storm water management terminology are from the TCEQ's TPDES General Permit No. TXR040000.

#### A. Definitions

Best Management Practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, structural controls, local ordinances, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spills or leaks, waste disposal, or drainage from raw material storage areas.

Classified Segment - refers to a water body that is listed and described in Appendix A or Appendix C of the Texas Surface Water Quality Standards, at 30 TAC ' 307.10.

Clean Water Act (CWA) - The Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972, Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.

Common Plan of Development or Sale - A construction activity that is completed in separate stages, separate phases, or in combination with other construction activities. A common plan of development or sale is identified by the documentation for the construction project that identifies the scope of the project, and may include plats, blueprints, marketing plans, contracts, building permits, a public notice or hearing, zoning requests, or other similar documentation and activities.

Construction Site Operator - The person or persons associated with a small or large construction project that meets either of the following two criteria:

- (a) the person or persons that have operational control over construction plans and specifications (including approval of revisions) to the extent necessary to meet the requirements and conditions of this general permit; or
- (b) the person or persons that have day-to-day operational control of those activities at a construction site that are necessary to ensure compliance with a storm water pollution prevention plan for the site or other permit conditions (e.g. they are authorized to direct workers at a site to carry out activities required by the Storm Water Pollution Prevention Plan or comply with other permit conditions).

Conveyance - Curbs, gutters, man-made channels and ditches, drains, pipes, and other constructed features designed or used for flood control or to otherwise transport storm water runoff.



**Daily Maximum** - For the purposes of compliance with the numeric effluent limitations contained in this permit, this is the maximum concentration measured on a single day, by grab sample, within a period of one calendar year.

**Discharge** - When used without a qualifier, refers to the discharge of storm water runoff or certain non-storm water discharges as allowed under the authorization of this general permit.

Final Stabilization - A construction site where either of the following conditions are met:

- (a) All soil disturbing activities at the site have been completed and a uniform (e.g, evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.
- (b) For individual lots in a residential construction site by either:
  - (1) the homebuilder completing final stabilization as specified in condition (a) above; or
  - (2) the homebuilder establishing temporary stabilization for an individual lot prior to the time of transfer of the ownership of the home to the buyer and after informing the homeowner of the need for, and benefits of, final stabilization.
- (c) For construction activities on land used for agricultural purposes (e.g. pipelines across crop or range land), final stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural use. Areas disturbed that were not previously used for agricultural activities, such as buffer strips immediately adjacent to a surface water and areas which are not being returned to their preconstruction agricultural use must meet the final stabilization conditions of condition (a) above.

Ground Water Infiltration - For the purposes of this permit, groundwater that enters a municipal separate storm sewer system (including sewer service connections and foundation drains) through such means as defective pipes, pipe joints, connections, or manholes.

**Illicit Connection** - Any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.



Illicit Discharge - Any discharge to a municipal separate storm sewer that is not entirely composed of storm water, except discharges pursuant to this general permit or a separate authorization and discharges resulting from emergency fire fighting activities.

Indian Country - Defined in 18 USC Section (') 1151, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.

Industrial Activities - manufacturing, processing, material storage, and waste material disposal areas (and similar areas where storm water can contact industrial pollutants related to the industrial activity) at an industrial facility described by the TPDES Multi Sector General Permit, TXR050000, or by another TCEQ or TPDES permit.

Large Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than five (5) acres of land. Large construction activity also includes the disturbance of less than five (5) acres of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than five (5) acres of land. Large construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, and original purpose of a ditch, channel, or other similar storm water conveyance. Large construction activity does not include the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.

Maximum Extent Practicable (MEP) - The technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in storm water discharges that was established by CWA ' 402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR ' 122.34.

MS4 Operator – For the purpose of this permit, the public entity, and/ or the entity contracted by the public entity, responsible for management and operation of the small municipal separate storm sewer system that is subject to the terms of this general permit.

Notice of Change (NOC) - Written notification from the permittee to the executive director providing changes to information that was previously provided to the agency in a notice of intent.

Notice of Intent (NOI) - A written submission to the executive director from an applicant requesting coverage under this general permit.



**Notice of Termination (NOT)** - A written submission to the executive director from a permittee authorized under a general permit requesting termination of coverage under this general permit.

Outfall - For the purpose of this permit, a point source at the point where a municipal separate storm sewer discharges to waters of the United States (U.S.) and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels, or other conveyances that connect segments of the same stream or other waters of the U.S. and are used to convey waters of the U.S.

**Permittee** - The MS4 operator authorized under this general permit.

**Permitting Authority** - For the purposes of this general permit, the TCEO.

**Point Source** - (from 40 CFR ' 122.22) any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

**Pollutant(s) of Concern** - Include biochemical oxygen demand (BOD), sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation), pathogens, oil and grease, and any pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from an MS4. (Definition from 40 CFR ' 122.32(e)(3)).

Redevelopment - Alterations of a property that changed the Afootprint@ of a site or building in such a way that there is a disturbance of equal to or greater than one (1) acre of land. This term does not include such activities as exterior remodeling.

Small Construction Activity - Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one (1) acre and less than five (5) acres of land. Small construction activity also includes the disturbance of less than one (1) acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one (1) and less than five (5) acres of land. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, and original purpose of a ditch, channel, or other similar storm water conveyance. Small construction activity does not include the routine grading of existing dirt roads, asphalt overlays of existing roads, the routine clearing of existing right-of-ways, and similar maintenance activities.

Small Municipal Separate Storm Sewer System (MS4) – refers to a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or



operated by the United States, a state, city, town, borough, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under ' 208 of the CWA; (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of a publicly owned treatment works (POTW) as defined at 40 CFR ' 122.2; and (v) Which was not previously authorized under a NPDES or TPDES individual permit as a medium or large municipal separate storm sewer system, as defined at 40 CFR §§122.26(b)(4) and (b)(7). This term includes systems similar to separate storm sewer systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. This term does not include separate storm sewers in very discrete areas, such as individual buildings. For the purpose of this permit, a very discrete system also includes storm drains associated with certain municipal offices and education facilities serving a nonresidential population, where those storm drains do not function as a system, and where the buildings are not physically interconnected to an MS4 that is also operated by that public entity.

Storm Water and Storm Water Runoff - Rainfall runoff, snow melt runoff, and surface runoff and drainage.

Storm Water Associated with Construction Activity - Storm water runoff from an area where there is either a large construction activity or a small construction activity.

Storm Water Management Program (SWMP) - A comprehensive program to manage the quality of discharges from the municipal separate storm sewer system.

Structural Control (or Practice) - A pollution prevention practice that requires the construction of a device, or the use of a device, to capture or prevent pollution in storm water runoff. Structural controls and practices may include but are not limited to: wet ponds, bioretention, infiltration basins, storm water wetlands, silt fences, earthen dikes, drainage swales, vegetative lined ditches, vegetative filter strips, sediment traps, check dams, subsurface drains, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions, and temporary or permanent sediment basins.

Surface Water in the State - Lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico inside the territorial limits of the state (from the mean high water mark (MHWM) out 10.36 miles into the Gulf), and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all water-courses and bodies of surface water, that are wholly or partially inside or bordering the state or subject to the jurisdiction of the state; except that waters in treatment systems which are authorized by state or federal law, regulation, or permit, and which are created for the purpose of waste treatment are not considered to be water in the state.



**Total Maximum Daily Load (TMDL)** - The total amount of a substance that a water body can assimilate and still meet the Texas Surface Water Quality Standards.

**Urbanized Area (UA)** - An area of high population density that may include multiple MS4s as defined and used by the U.S. Census Bureau in the 2000 decennial census.

Waters of the United States - (from 40 CFR ' 122.2) Waters of the United States or waters of the U.S. means:

- (a) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- (b) all interstate waters, including interstate wetlands;
- (c) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds that the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - (1) which are or could be used by interstate or foreign travelers for recreational or other purposes;
  - (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - (3) which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) all impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) tributaries of waters identified in paragraphs (a) through (d) of this definition;
- (f) the territorial sea; and
- (g) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR ' 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the



impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area=s status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

#### B. Commonly Used Acronyms

BMP Best Management Practice

CFR Code of Federal Regulations

CGP Construction General Permit, TXR150000

CWA Clean Water Act

DMR Discharge Monitoring Report

EPA Environmental Protection Agency

FR Federal Register

IP Implementation Procedures

MCM Minimum Control Measure

MSGP Multi-Sector General Permit, TXR050000

MS4 Municipal Separate Storm Sewer System

NOC Notice of Change

NOD Notice of Deficiency

NOI Notice of Intent

NOT Notice of Termination (to terminate coverage under a general

permit)

NPDES National Pollutant Discharge Elimination System

SWMP Storm Water Management Program

SWP3, Storm Water Pollution Prevention Plan

**SWPPP** 

TAC Texas Administrative Code



TCEQ Texas Commission on Environmental Quality

TPDES Texas Pollutant Discharge Elimination System

TWC Texas Water Code

