TABLE OF CONTENTS
SMALL MS4 STORM WATER MANAGEMENT PROGRAM

APPENDICES

CORRELATION OF SECTION/APPENDICES

Section 1 Public Education and Outreach	Appendix I – Public Education and Outreach BMPs
Section 2 Public Involvement in Storm Water Management Program Development	Appendix II – Public Involvement in Storm Water Management Program Development BMPs
Section 3 Illicit Discharge Detection and Elimination	Appendix III – Illicit Discharge Detection and Elimination BMPs
Section 4 Construction Site Storm Water Controls	Appendix IV – Construction Site Storm Water Controls BMPs
Section 5 Post Construction Storm Water Management for New Development/ Redevelopment	Appendix V – Post Construction Storm Water Management for New Development/Redevelopment BMPs
Section 6 Pollution Prevention/Good Housekeeping for Municipal Operations	Appendix VI – Pollution Prevention/Good Housekeeping for Municipal Operations BMPs

PREFACE

SWMP Overview

Regulatory Requirement

Phase I of the U.S. Environmental Protection Agency's (EPA) municipal storm water program was promulgated in 1990 under the authority of the Clean Water Act (CWA). Phase I relied on the National Pollutant Discharge Elimination System (NPDES) permit coverage to address storm water runoff from medium and large municipal separate storm sewer systems (MS4s), serving populations of 100,000 or greater.

The Storm Water Phase II Final Rule (promulgated December 8, 1999) was the next step in the EPA's efforts to preserve, protect, and improve the nation's water resources from polluted storm water runoff. The Phase II program requires additional operators (small MS4s in urbanized areas) to implement programs and practices to control polluted storm water runoff, through the NPDES permit program. The program requires Phase II municipalities to develop a Storm Water Management Program.

The purpose of this document is to present a model Storm Water Management Program that can be used as guidance by Phase II municipalities to develop the required programs.

Minimum Control Measures

To meet the federal regulations, a municipality's Storm Water Management Program must provide minimum control measures for the following subject areas.

Public Education and Outreach On Storm Water Impacts

Public education and outreach is a major key to the success of a storm water management program. Through public education, people will gain an understanding of how their actions can affect storm water quality and become more informed about storm water quality issues in their community. MS4s will start to gain more support for their management programs both politically and financially as the public awareness grows. Public education is also able to perpetuate itself. As an individual becomes more informed about a topic of concern, they will inform others in their community. This aids the municipalities' efforts to educate the public, thus making resources available for other tasks. Also, when the public is aware of the impacts that they have on their surroundings, they gain a sense of responsibility for those actions. This can lead to greater compliance for the storm water management program. When the public makes an effort to comply with the management program, the program will have a greater positive effect more quickly.

Many public education methods are available. Some examples of methods that are used include:

- Distributing brochures or fact sheets
- Sponsoring speaking engagements before community groups
- Providing public service announcements
- Implementing educational programs targeted at school age children
- Conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups

MS4s are also able to utilize storm water education information available through the state, tribe, EPA, or other organizations in their education program.

The public education program should target several different areas. First, individuals and households should be educated on how to maintain their homes in an environmentally friendly manner. This includes proper fertilizer, herbicide, and pesticide use; proper waste disposal; and proper septic system maintenance. The program should also inform the public on how to get involved in restoration activities and other conservation groups. Finally, the program should target commercial, industrial, and institutional groups, which may have business activities that could cause a significant impact to the storm water quality of the MS4.

The SWMP objectives should be:

- Inform individuals and homeowners of steps they can take to improve storm water quality.
- Educate commercial, industrial, and institutional groups about the impacts of their work on the storm water quality and the steps needed to reduce these effects.
- Address the viewpoints of all economic and ethnic groups in the design of the education program.

Public Involvement/Participation

Public involvement/participation is important for the development of the storm water management program. By encouraging input from all economic and cultural groups, there can be beneficial impacts to the development of the program. One such benefit is that early and frequent public input can lead to a shorter implementation schedule and greater support for the program. As with public education, people who take an active roll in the development of the program also feel a sense of responsibility for the program's success. For this reason, people may be less likely to challenge the MS4's program, which can lead to delays and hinder the program's success. Finally, with a larger number of people involved in the development of the program, there are more opportunities to gain expertise from these individuals and cooperation with other programs or governments in that watershed. These added resources can improve the success of the program.

Members of the community can get involved in several ways. Possibilities for participation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts.

The objectives should be:

- Include the public in the development, implementation, and review of the storm water management program.
- Include input from all economic and cultural groups.

Illicit Discharge Detection and Elimination

The illicit discharge detection and elimination minimum control measure is intended to reduce improper waste and management practices. A study by the Nationwide Urban Runoff Program (NURP) found that a little less than half of the water that is discharged from a MS4 during dry weather conditions was not directly related to storm water runoff. These dry weather discharges were found to have pollutant levels high enough to significantly impact the water quality of the receiving water

bodies. It is believed that most of the flow during dry weather conditions is due to illicit and/or inappropriate discharges and connections to the MS4 such as mistaken or deliberate connections of wastewater lines to the MS4. The MS4 may also receive the illicit discharge through an indirect connection such as infiltration into the MS4 or spills flowing into storm drains.

There are four parts to this minimum control measure. The first part is to develop an MS4 map that identifies all outfalls and the name and location of all waters of the United States that receive the discharge from the outfalls. The second part of the illicit discharge and elimination control measure is to prohibit the discharge of non-storm water discharges to the MS4 through regulatory avenues and to develop a means to enforce these regulations. The third part is to execute a plan to detect and address non-storm water discharges. Dry weather screening is one method for localizing illicit discharges in MS4s. Finally, the public should be educated about the hazards of improper waste disposal and non-storm water discharges. The educational component may include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of outreach materials.

The objectives should be:

- Develop procedures to locate areas suspected of having illicit discharges.
- Develop procedures to track down the source of an illicit discharge.
- Develop procedures to remove the illicit discharge.
- Develop procedures to evaluate the programs performance.

Construction Site Storm Water Runoff Control

Construction site storm water runoff control is a minimum control measure designed to address the pollution of storm water runoff from construction sites. Activities that are performed on construction sites usually disturb a large amount of land and generate large amounts of waste. This has been found to lead to high levels of sediment, phosphorus, nitrogen, pesticides, petroleum derivatives, construction chemicals, and solid wastes in receiving streams.

Several actions must be taken under this minimum control measure to deal with these pollutants. First, construction sites must be required through regulations or ordinances, to establish erosion and sediment controls. A mechanism to enforce compliance must also be established with the regulation or ordinance to ensure that the necessary controls are implemented. This may include non-monetary penalties, fines, bonding requirements, and permit denials. Next, the MS4 must establish the necessary requirements for erosion and sediment control Best Management Practices (BMPs) and methods to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste. This will serve as guidance for construction site operators to establish control measures appropriate to their activities and size. Finally, the MS4 must establish procedures for site plan

review, receipt and consideration of public input, and inspection and enforcement of controls.

The objectives should be:

- Develop erosion and sediment control and waste control requirements for construction sites.
- Develop procedures for site plan review to ensure consistency with local erosion and sediment control requirements.
- Develop procedures for receipt and consideration of public input.
- Develop procedures for inspection and enforcement to include identification of priority sites based of characteristics such as nature of the construction activities, topography, and the characteristics of soils and receiving water quality.

Post-Construction Storm Water Management In New Development and Redevelopment

Post-construction storm water management in new development and redevelopment focuses on implementation of controls that will try to maintain good water quality conditions after an area has been developed or after construction. This minimum control includes three parts. First, the MS4s are required to develop and implement structural and non-structural BMPs. Many studies have shown that it is much easier and more cost-effective to control pollution at its source rather than after it enters into an MS4. For this reason it is important to consider BMPs that may be needed for post-construction pollution control prior to the construction of an area. Minimization of impervious areas, wetland protection, and vegetated drainage ways are some of the controls that may be considered for use during the design of a new development or redevelopment project. The BMPs that are chosen should be appropriate for the community that it is to serve, minimize water quality impacts, and try to maintain pre-development runoff conditions. Second, regulations and ordinances will be created to establish requirements for post-construction runoff from new development and redevelopment projects. Third, the MS4 needs to develop a mechanism to ensure that there is long-term operation and maintenance of the BMPs.

The objectives should be:

- Develop and implement structural and non-structural BMPs.
- Develop ordinances or regulations for runoff from new development and redevelopment projects.
- Develop a mechanism to ensure long-term operation and maintenance of the BMPs.

Pollution Prevention/Good Housekeeping For Municipal Operations

Pollution prevention/good housekeeping for municipal operations is a minimum control measure designed to emphasize the operation and maintenance of MS4s and proper training of municipal employees. Performing municipal activities in a careful and proper manner prevents or reduces pollutant runoff. Municipal operations include parks, golf courses and open space maintenance; fleet maintenance; new construction or land disturbance; building oversight; planning; and storm water system maintenance.

The following items should be considered when developing this program:

- Maintenance activities
- Maintenance schedules
- Long-term inspection procedures for structural and non-structural storm water controls to reduce floatables and other pollutants discharged from the separate storm sewer
- Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations disposal areas, and waste transfer stations
- Procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris)
- Ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for protection devices or practices

The objectives should be:

- Develop and implement good housekeeping practices.
- Develop and implement an employee training program.

Definitions (40CFR122)

BMPs (Best Management Practices) – schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

CWA – Clean Water Act

Illicit Discharge – any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the municipal separate storm sewer) and discharges resulting from fire fighting activities.

MEP – Maximum Extent Practicable

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

NPDES (National Pollutant Discharge Elimination System) – National program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA.

Outfall – a point source at the point where a municipal separate storm sewer discharges to waters of the United States.

Redevelopment – alterations of a property that change the footprint of a site or building in such a way that results in the disturbance of equal to or greater than 1 acre of land.

Waters of the United States – (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 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; (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 applied only to man-made bodies of water which neither were originally created in waters of the United Sates (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 croplands by any other federal agency, for the purpose of the Clean Water Act, The final authority regarding Clean Water act jurisdiction remains with EPA.

Document Organization

This model Storm Water Management Program (SWMP) is organized to aid development and implementation of the programs required by the Phase II Storm Water Regulations, and to aid in completion of permit notification documents (NOI) and tracking progress for the Annual Reports.

Part I of the Storm Water Management Program provides background information on the municipality.

Following the municipality's background description, the required six minimum control measures (MCMs) are addressed in Part II of the Storm Water Management Plan.

For each minimum control measure, the following are discussed:

Regulatory Requirement	The specific regulatory citation from EPA's final regulations on the Phase II storm water program (64FR235, December 8, 1999) is provided for each minimum control measure.
Selected BMPs	A description of the best management practices the municipality will implement to address the regulatory requirement. Descriptions of example BMPs for each MCM are provided in the corresponding appendices (The municipality is not limited to these examples.)
Measurable Goals (MGs)	The municipality must designate a measurable goal for each BMP. Sample MGs are provided with the sample BMPs in the corresponding appendices.
Schedule	The implementation schedule for each BMP is described.
Responsible Persons	The person or position responsible for implementation of each BMP is provided.

These information items are required elements identified by EPA to be part of the SWMP that supports the General Permit Application (Notice of Intent, NOI) to the TNRCC. The information is presented in a manner that will aid implementation of the SWMP and documentation of progress in the required Annual Report.

The Appendices provide a menu of example best management practices for each minimum control measure from which the municipality can select.

Implementation Plan to Prepare for Permitting

The following are suggested steps to prepare for implementation of a Phase II MS4 permit. They are discussed more fully on the following pages.

1. Familiarize key Municipality staff with the program requirements (based on the EPA requirements in the December 8, 1999, Federal Register).

2. Evaluate the Municipality's current status toward addressing the minimum control measures, and identify gaps and opportunities.

3. Identify opportunities to adopt existing Phase I programs or to team with other municipalities on a regional approach for the entire permit (co-permittees) or specific programs to maximize efficiency of implementation.

4. Determine method of public involvement in the process of developing the Municipality's Storm Water Management Program (advisory committee, public meetings, etc.).

5. Identify required BMPs and other suitable BMPs the Municipality could implement.

6. Identify a team leader responsible for each BMP's implementation.

7. Determine a schedule for implementing each BMP.

8. Develop draft Storm Water Management Program (SWMP).

9. Include public involvement in review of the draft SWMP.

10. Review and comment on TNRCC's draft permit requirements for a Phase II MS4 permit in Texas.

11. Determine resources, funding, and legal authority needed to implement the SWMP.

12. Acquire resources, funding, and legal authority needed to implement the SWMP.

13. Review TNRCC's final permit requirements for a Phase II MS4 permit in Texas (permit must be issued by December 9, 2002).

14. MS4s must develop a SWMP, fill out an application (NOI) and submit both within 90 days from the effective date of the permit.

15. Implement SWMP on or before March 10, 2003.

16. Prepare required Annual Reports.

These steps are discussed more fully below.

1. Program Requirements

The Phase II MS4 permit program requirements were published by EPA in the December 8, 1999, Federal Register (64FR235).

EPA fact sheets on the program can be downloaded from the website:

> EPA Stormwater Phase II
> 14 fact sheets covering the Small MS4 Program, the Six Minimum Measures, Permitting and Reporting, the Construction Program, and the Industrial "No Exposure" Waiver. Available at http://www.epa.gov/owm/sw/phase2/factshts.htm
>
> A copy of the EPA regulation is available at http://www.epa.gov/owm/sw/phase2/final.htm
>
> More information can be obtained by calling EPA's Storm Water Phase II Rule Hotline at (202) 260-5816, or by sending an e-mail to sw2@epa.gov.
> For an extensive list of links to other sites, see
> http://www.epa.gov/owm/sw/links/

Galveston Bay Estuary Program has workshop slides that outline the program requirements. See their website at:

> http://gbep.tamug.tamu.edu/index.html

Galveston Bay Estuary Program and Houston-Galveston Area Council will provide workshops periodically.

Additional information resources include:

> EPA Compliance Assistance Centers
> EPA has established ten sector-specific Compliance Assistance Centers. They cover broader environmental issues than just storm water, but might be useful. The first one is the most relevant to Phase II municipalities.
>
> Local Government Environmental Assistance Network at www.lgean.org

2. Current Status Evaluation

The following checklist will assist in evaluation of the Municipality's current status toward the Phase II MS4 storm water permit requirements:

Question	Information	Contact/Phone
SETTING:		
What is the Municipality's population?		
Describe local topography, hydrology, climate, rainfall, etc.		
Are there existing runoff management programs/policies?		
Does the Municipality have zoning, land use planning?		
ORGANIZATION/STRUCTURE:		
What is the Municipality's management structure?		
Is there a Municipal Attorney?		
INSPECTION/ENFORCEMENT:		
What is the Municipality's legal authority to regulate runoff issues?		
Do existing ordinances address runoff issues or illicit discharges?		
Are there wastewater or discharge inspectors?		
Are there building inspectors?		
Is there a Code enforcement group?		
INFRASTRUCTURE/MUNICIPAL OPERATIONS		
How is street maintenance handled?		
Is the existing drainage system mapped?		
Is there a need to expand mapping to other utilities?		

INFRASTRUCTURE/MUNICIPAL OPERATIONS - *continued*		
Is there a need to integrate other data into the mapped/GIS system for other administrative uses?		
Is there an interest to combine/establish program along with other storm or drainage program?		
OUTREACH/TRAINING		
How is employee training handled?		
What methods are currently being used to provide information and involve the public in Municipality programs?		
PROGRAM FUNDING		
What are the Municipality's funding sources? General funds Municipality-wide benefit assessment User fee Other		
PROGRAM AREAS How is the Municipality currently organized to address polluted urban runoff in the following areas:		
Public education		
Public involvement		
Construction		
New development/redevelopment		
Illegal dumping/discharges		
Municipal operations		
Other		

3. Identify Opportunities to Adopt/Team

Identify opportunities to adopt existing Phase I programs or to team with other municipalities on a regional approach for the entire permit (co-permittees) or specific programs to maximize efficiency of implementation.

Public education, illicit discharges, construction, and post-construction controls are program areas that lend themselves to joint local efforts.

4. Public Involvement

Public involvement can include public meetings, advisory committees, presentations, as well as various volunteer participation opportunities.

Typically, an advisory committee would include representatives of the regulated community that will be impacted by the areas covered by the minimum control measures:

- Public education
- Public involvement
- Illicit discharges
- Construction
- New development/redevelopment
- Municipal operations

5. Identify BMPs

Some required BMPs are identified in the EPA regulation. Additional BMPs will need to be identified to fully implement the Phase II storm water permitting requirements. See the model SWMP appendices for example BMPs. The example BMPs and the sources below are provided for information only and not as an endorsement. Applicability for BMPs must be established locally and address site specific needs. Other sources of ideas for BMPs include:

> *Texas Nonpoint Source Pollution Assessment Report and Management Program*. October 1999. Texas Natural Resource Conservation Commission and Texas State Soil and Water Conservation Board.
>
> *Preventing Nonpoint Source Pollution – A Guide to Pollution Prevention for Small Businesses*. June 1998. Galveston Bay Estuary Program and Galveston County Health District.

Trade Websites

Automotive service and repair	www.ccar-greenlink.org
Chemical Manufacturers Association	www.chemalliance.org
National Agriculture Compliance Assistance Center	www.epa.gov/oeca/ag
National Metal Finishing Resource Center	www.nmfrc.org
Paints and Coatings Resource Center	www.paintcenter.org
Printed Wiring Board Resource Center	www.pwbrc.org
Printers' National Environmental Assistance Center	www.pneac.org
Transportation Environmental Resource Center	www.transource.org
Federal departments and agencies	www.epa.gov/oeca/fedfac/cfa

Center for Watershed Protection
The center provides information on effective techniques to protect and restore urban watersheds. Workshops, journals, publications, and links are available.

8391 Main Street
Ellicott Municipality, MD 21043-4605
Phone: (410) 461-8323
http://www.cwp.org

Texas Nonpoint Source Book
A web site with storm water information geared to public works professionals and other interested parties. Resource for storm water BMP information.
http://www.txnpsbook.org

Texas Department of Transportation
http://www.dot.state.tx.us/insdtdot/orgchart/gsd/pubs/despub.htm

National Resource Defense Council (NRDC). Storm water strategies report on community responses to runoff pollution, including 100 case studies available for download. http://www.nrdc.org/water/pollution/nstorm.asp. Steps to clean up pollution: http://www.nrdc.org/water/pollution/gsteps.asp

National Stormwater Best Management Practices (BMP) Database (EPA/ASCE, 4/01). Database of monitoring results showing effectiveness of structural and non-structural BMPs. Currently, the database and web site do not include much analysis of the data; this will be added in the future. Data contributions are being solicited on an on-going basis.

Available as CD-ROM or at http://www.bmpdatabase.org. Call Jane Clary or Jonathan Kelly at Wright Water Engineers, Inc., (303) 480-1700, or email at clary@wrightwater.com for a copy of the CD-ROM and user's guide (free).

Stormwater News
Source of technical information on storm water. Includes a large library of technical papers. http://www.stormwater-resources.com/

California Model Urban Runoff Program (MURP)

A how-to guide for developing urban runoff programs for small municipalities. Developed by the Municipality of Monterey, CA. Available for free on the internet at http://www.swrcb.ca.gov/~rwqcb3/Downloads/downloads.html (or http://www.swrcb.ca.gov/stormwtr/index.html), or request a hard copy for $195 from:

Copy King
MURP Order
498 Calle Principal
Monterey, CA 93940
(831) 373-1251

Designing and Implementing an Effective Storm Water Management Program (APWA). A 110 page manual on getting a Phase II program started. A CD-ROM is also available with the complete Phase II regulation, the EPA BMP database (Item B.4.) and case studies, and other ancillary information. Also available is a Storm Water Facilitators Guide with step by step instructions for an APWA chapter or agency to conduct its own storm water workshop, and a videotape of the 2/15/2000 APWA videoconference with the EPA.
For questions about content call (816) 472-6100 x3582.
Questions about ordering, call (816) 472-6100 x3560.

6. Identify Person Responsible for Implementation

The Checklist in Item 2 above will help identify the person or position responsible for implementing particular BMPs.

7. Schedule

BMPs can be implemented all at once or in phases over the 5-year term of the permit. The municipality can propose its own schedule. Following are some of the items that should be considered in developing the schedule for each BMP:

a. Does the BMP need to be started earlier than 2003 to coordinate with other Municipality projects, priorities?
b. Are there BMPs that need to be coordinated with each other (at the same time) or need to follow each other?
c. Are there funding or resource considerations that affect when the BMP can be implemented?
d. Is the BMP being implemented by several parties that need to coordinate their schedules?
e. Should the BMP implementation be spread out over the entire period of the permit (20% per year)?

8. Develop draft Storm Water Management Program (SWMP)

The template Model Storm Water Management Program will assist the municipality in developing a Storm Water Management Program. For each minimum control measure (public education, public involvement, illicit discharges, construction, new development/redevelopment, municipal operations) possible BMPs will be described and schedules and responsible parties listed.

9. Determine resources, funding and legal authority needed

Review of current status (See Step 2) and identification of required and additional BMPs (Step 5) to be implemented may indicate a need for additional resources, funding and/or legal authority for the municipality.

10. Review and comment on TNRCC's draft permit requirements

TNRCC will be holding stakeholders meetings on the Phase II Municipal Permit during late 2001 and 2002. Draft versions of the permit will be available for review and comment during that period. Interested municipalities should comment at that time. The final TNRCC permit is due in December 2002.

11. Involve public in review of SWMP

Advisory committee, public meeting, distribution of SWMP for comments, or other similar process.

12. Acquire resources, funding and legal authority

Review of current status (See Item 2) and identification of required and additional BMPs to be implemented may indicate a need for additional resources, funding and/or legal authority. These will need to be acquired to timely implement the scheduled BMPs in the SWMP.

13. Review TNRCC's final permit requirements

EPA's schedule indicates that TNRCC will have its General Permit for Phase II municipalities finalized in December 2002. These final requirements for permit implementation should be reviewed by the municipality.

14. Finalize SWMP

The SWMP must be finalized, based on the final TNRCC General Permit in order to submit a Notice of Intent (NOI) for permit coverage by March 8, 2003. The permit goes into effect March 10, 2003.

15. Implement SWMP

The Municipality must begin implementing the SWMP, on or before March 10, 2003.

16. Prepare required Annual Reports

Based on the final TNRCC General Permit requirements, information must be collected for preparation of an annual report of progress in implementing the SWMP.

Timeline chart here

MODEL
STORM WATER
MANAGEMENT PROGRAM

PART I
MODEL SWMP MUNICIPALITY BACKGROUND

Municipality Background

The following checklist will assist in evaluation of the Municipality's current status toward the Phase II MS4 storm water permit requirements and preparation of a discussion of the Municipality's background regarding storm water quality management:		
Question	Information	Contact/Phone
SETTING:		
What is the Municipality's population?		
Describe local topography, hydrology, climate, rainfall, etc.		
Are there existing runoff management programs/policies?		
Does the Municipality have zoning, land use planning?		
ORGANIZATION/STRUCTURE:		
What is the Municipality's management structure?		
Is there a Municipality Attorney?		
INSPECTION/ENFORCEMENT:		
What is the Municipality's legal authority to regulate runoff issues?		
Do existing ordinances address runoff issues or illicit discharges?		
Are there wastewater or discharge inspectors?		
Are there building inspectors?		
Is there a code enforcement group?		
INFRASTRUCTURE/MUNICIPAL OPERATIONS		
How is street maintenance handled?		
Is the existing drainage system mapped?		
Is there a need to expand mapping to other utilities?		

INFRASTRUCTURE/MUNICIPAL OPERATIONS - *continued*		
Is there a need to integrate other data into the mapped/GIS system for other administrative uses?		
Is there an interest to combine/establish program along with other storm or drainage program?		
OUTREACH/TRAINING		
How is employee training handled?		
What methods are currently being used to provide information and involve the public in Municipality programs?		
PROGRAM FUNDING		
What are the Municipality's funding sources? General funds Municipality-wide benefit assessment User Fee Other		
PROGRAM AREAS How is the Municipality currently organized to address polluted urban runoff in the following areas:		
Public education		
Public involvement		
Construction		
New development/redevelopment		
Illegal dumping/discharges		
Municipal operations		
Other		

PART II
MODEL SWMP
MINIMUM
CONTROL
MEASURES

GUIDANCE FOR USING THE SWMP TEMPLATE

Please substitute the name of your municipality wherever it says "Municipality" in the Text. Fill in the blanks as appropriate with information specific to your Municipality. In the "Current Programs" sections, discuss what your municipality is already doing.

For each Best Management Practice (BMP) identified, a schedule for implementation must be developed and a responsible person or position identified. Measurable goals must also be identified for each BMP.

The appendices that correspond to the following sections contain information on a selection of best management practices that you can select or review for ideas that might be appropriate for your municipality to implement. The example BMPs are provided for information only and not as an endorsement. Applicability for BMPs must be established locally and address site specific needs. Substitute descriptive name of BMP for the numbered BMPs currently listed for document organization purposes. Example measurable goals are also provided in the appendices. BMPs required by the EPA/TNRCC must be implemented. At this time (August 2001), no specific number of BMPs have been required. If additional guidance is not provided, the Municipality must identify the number and type of BMPs to meet the program goals described in 40 CFR 122.34 – "Your NPDES Permit will require at a minimum that you develop, implement and enforce a storm water management program designed to reduce the discharge of pollutants from your MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act."

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1. Public Education and Outreach

1.1 Regulatory Requirement

40 CFR 122.34 (b)(1) – Implement a public education program to distribute educational materials to the community of contact, equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps the public can take to reduce pollutants in storm water runoff.

1.2 Current Programs

The Municipality provides general public education to residents on a variety of subjects by _____. No specific information has been provided to the public regarding municipal storm sewer discharge quality.

1.3 Selected BMPs for Public Education and Outreach

1.3.1 BMP1 *(substitute descriptive name of BMP)*

The Municipality has selected (Best Management Practice_____) (in Appendix I) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities by _____.

1.3.1.1 Measurable Goals

The measurable goal for implementation of this BMP is to _____ _____. Development and implementation will be according to the schedule below.

1.3.1.2 Schedule

Program	BMP	Activity	Date Due
1. Public Education and Outreach		1.	
		2.	
		3. Implementation Complete (meets Measurable Goal 1.3.1.1)	

1.3.1.3 Responsible Persons

_____ has responsibility for implementation of BMP1 to meet Measurable Goal 1.3.1.1.

1.3.2 BMP2 *(substitute descriptive name of BMP)*

The Municipality has selected (Best Management Practice_____) (in Appendix I) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities by _____.

1.3.2.1 Measurable Goals

The measurable goal for implementation of BMP2 is to _____. Development and implementation will be according to the schedule below.

1.3.2.2 Schedule

Program	BMP	Activity	Date Due
1. Public Education and Outreach		1.	
		2.	
		3. Implementation Complete (meets Measurable Goal 1.3.2.1)	

1.3.2.3 Responsible Persons

_____ has responsibility for implementation of BMP2 to meet Measurable Goal 1.3.2.1.

2. Public Involvement in Storm Water Management Program Development

2.1 Regulatory Requirement

> **40 CFR 122.34 (b)(2) -At a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program. *EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program and that the public participation process should make efforts to reach out and engage all economic and ethnic groups.***

2.2 Current Programs

Currently, the Municipality

_____

_____.

2.3 Selected BMPs for Public Involvement

The public should be included in developing, implementing, and reviewing the storm water management program.

2.3.1 BMP1 - Comply with State and Local Public Notice Requirements

The Municipality will comply with state and local public notice requirements when implementing a public involvement/participation program. These requirements consist of _____

_____ and will be met by _____.

2.3.1.1 Measurable Goals

The measurable goal for implementation of BMP1 is to provide state and local required public notice in the process of implementing a public involvement/ participation program (specify requirement). Implementation will be according to the schedule below.

2.3.1.2 Schedule

Program	BMP	Activity	Date Due
1. Public Involvement		1.	
		2.	
		3. Implementation Complete (meets Measurable Goal 2.3.1.1)	

2.3.1.3 Responsible Persons

_____ has responsibility for implementation of BMP1 to meet Measurable Goal 2.3.1.1.

2.3.2 BMP2 *(substitute descriptive name of BMP)*

Municipality has selected (Best Management Practice_____) (in Appendix II) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities _____ _____.

2.3.2.1 Measurable Goals

The measurable goal for implementation of this BMP is to _____ _____. Development and implementation will be according to the schedule below.

2.3.2.2 Schedule

Program	BMP	Activity	Date Due
2. Public Involvement		1.	
		2.	
		3. Implementation Complete (meets Measurable Goal 2.3.2.1)	

2.3.2.3 Responsible Persons

The _____ has responsibility for implementation of this BMP to meet Measurable Goal 2.3.2.1.

3. Illicit Discharge Detection and Elimination

3.1 Regulatory Requirement

> **40 CFR 122.34 (b)(3) -Develop, implement, and enforce a program to detect and eliminate illicit discharges into your small MS4. Develop a storm sewer system map, showing the location of all outfalls and the names and locations of all water of the U.S. that receive discharges from those outfalls. To the extent allowable under state, tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions. Develop and implement a plan to detect and address non-storm water discharges including illegal dumping to your system. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Address categories listed in 122.34(b)(3)(D)(iii) if you determine they are significant contributors of pollutants to MS4.**

3.2 Current Programs

Currently, the Municipality _____
_____.

3.3 Selected BMPs for Illicit Discharge Detection and Elimination

3.3.1 BMP1 - Storm Sewer Map

The Municipality will develop a storm sewer system map, showing the location of all outfalls and the names and locations of all water of the U.S. that receive discharges from those outfalls. *Note: Describe further, i.e. paper-based or GIS, method of development.*

3.3.1.1 Measurable Goals

The measurable goal for implementation of BMP1 is to map 100% of the drainage system in the first year of the permit. Development and implementation will be according to the schedule below. *Note: You may want to change this schedule, to coordinate with other BMPs or other Municipality activities.*

3.3.1.2 Schedule

Program	BMP	Activity	Date Due
3 – Illicit Discharge Detection and Elimination	Map Storm Sewer System	1. Map 100% of the drainage system.	3/10/04
		2. Implementation Complete	3/10/04

3.3.1.3 Responsible Persons

_____ has responsibility for implementation of this BMP to meet Measurable Goal 3.3.1.1.

3.3.2 BMP2 - Illicit Discharge Ordinance

The Municipality will develop an ordinance (or other regulatory mechanism) to effectively prohibit non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions.

3.3.2.1 Measurable Goals

The measurable goal for implementation of this BMP is to develop a draft ordinance in Year 1 of the permit period and finalize and implement the ordinance in Year 2 of the permit period.

3.3.2.2 Schedule

Program	BMP	Activity	Date Due
Illicit Discharge Detection and Elimination	Ordinance for Illicit Discharge Detection and Elimination	1. Develop a draft ordinance	3/10/04
		2. Finalize ordinance	3/10/05
		3. Implement ordinance	3/10/05

3.3.2.3 Responsible Persons

_____ has responsibility for development and implementation of the illicit discharge ordinance.

3.3.3 BMP3 - Program to Detect and Address Illicit Discharges

The Municipality will develop a program to detect and address non-storm water discharges including illegal dumping into the storm sewer system. The Municipality will evaluate existing programs (describe) and identify additional program requirements and resource needs.

3.3.3.1 Measurable Goals

The measurable goal for implementation of BMP 3 is to evaluate the existing program and identify additional program requirements and resource and training needs in Year 1. Additional resources and training will be acquired in Year 2. The program implementation will begin in year 3.

3.3.3.2 Schedule

Program	BMP	Activity	Date Due
Illicit Discharge Detection and Elimination	Program to Detect and Address Illicit Discharges	1. Evaluate existing program and identify additional program requirements and resource and training needs.	3/10/04
		2. Acquire needed resources, training	3/10/05
		3. Implement program	3/10/05

3.3.3.3 Responsible Persons

_____ has responsibility for development and implementation of the illicit discharge program.

3.3.4 BMP4- Public Education on Illegal Discharges and Improper Disposal

The Municipality will develop a public education effort to inform public employees, businesses, and the general public of hazards associated with illegal discharges and

improper disposal of waste. (This BMP also addresses the minimum control measure for public education.)

3.3.4.1 Measurable Goals

The Municipality will develop or acquire public education materials in Year 1 of the permit period and determine an effective means of distribution (with prioritization). The materials will be distributed to all public employees in Year 2 of the permit period. The materials will be distributed to half of the businesses in Year 2 and half in Year 3 of the permit period.

3.3.4.2 Schedule

Program	BMP	Activity	Date Due
Illicit Discharge Detection and Elimination	Public Education on Illegal Discharges and Improper Disposal	1. Develop or acquire public education materials.	3/10/04
		2. Determine an effective means of distribution.	3/10/04
		3. Distribute materials to public employees.	3/10/05
		4. Distribute materials to 50% of businesses.	3/10/05
		5. Distribute materials to 50% of businesses.	3/10/06

3.3.4.3 Responsible Persons

_____ has responsibility for distribution of public education materials on illegal discharges and improper disposal.

3.3.5 BMP 5 *(substitute descriptive name of BMP)*

4. Construction Site Storm Water Controls

4.1 Regulatory Requirement

> **40 CFR 122.34 (b)(4) -Develop, implement and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Program must include: the development and implementation of (at a minimum) and ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, requirements for construction site operators to implement appropriated erosion and sediment control BMPs, requirements for construction site operators to control waste at the construction site, procedures for site plan review which incorporate consideration of potential water quality impacts, procedures for receipt and consideration of information submitted by the public.**

4.2 Current Programs

Currently, the Municipality _____
_____.

4.3 Selected BMPs for Construction Site Storm Water Controls

4.3.1 BMP1 Enact Ordinance for Construction Site Erosion and Sediment Controls

The Municipality will enact an ordinance or other regulatory mechanism to require erosion and sediment controls at construction sites, as well as sanctions to comply with the requirements, as part of this Storm Water Management Program. The ordinance and associated Municipality requirements or procedures will require construction site operators to implement appropriate erosion and sediment controls and to control wastes at construction sites. Municipality procedures will be modified to require site plan review and site inspection and enforcement. This BMP does _____. It will be integrated into existing activities by _____
_____.

4.3.1.1 Measurable Goals

The measurable goal for implementation of BMP1 is to develop the ordinance, requirements and procedures in the first permit year and enact them in the second permit year. Development and implementation will be according to the schedule below.

4.3.1.2 Schedule

Program	BMP	Activity	Date Due
4 Construction Site Storm Water Controls	Ordinance requiring erosion and sediment controls at construction sites.	1. Develop a draft ordinance	3/10/04
		2. Finalize ordinance	3/10/05
		3. Implement ordinance	3/10/05

4.3.1.3 Responsible Persons

The _____ has responsibility for implementation of BMP1 to meet Measurable Goal 4.3.1.1.

4.3.2 BMP2- Public Education on Construction Site Storm Water Control Requirements

The Municipality will develop a public education effort to inform the public and construction site operators of the requirements for construction site storm water controls. (This BMP also addresses the minimum control measure for public education.)

4.3.2.1 Measurable Goals

The Municipality will develop or acquire public education materials in Year 1 of the permit period. The materials will be distributed to construction site operators in Year 2 of the permit period.

4.3.2.2 Schedule

Program	BMP	Activity	Date Due
Construction Site Storm Water Controls	Public Education on Construction Site Storm Water Controls	1. Develop or acquire public education materials.	3/10/04
		2. Distribute materials to permit applicants.	3/10/05
		Implementation Complete	3/10/05

4.3.2.3 Responsible Persons

_____ has responsibility for distribution of public education materials on construction site storm water controls.

4.3.3 BMP3 *(substitute descriptive name of BMP)*

Municipality has selected (Best Management Practice_____) (in Appendix IV) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities by _____.

4.3.3.1 Measurable Goals

The measurable goal for implementation of BMP2 is to . _____-_____ Development and implementation will be according to the schedule below.

4.3.3.2 Schedule

Program	BMP	Activity	Date Due
4. Construction Site Storm Water Controls			
		3. Implementation Complete (meets Measurable Goal 4.3.1.1)	

4.3.3.3 Responsible Persons

The _____ has responsibility for implementation of BMP1 to meet Measurable Goal 4.3.1.1.

5. Post Construction Storm Water Management for New Development/ Redevelopment

5.1 Regulatory Requirement

> **40 CFR 122.34 (b)(5) –Develop, implement and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects that are less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for your community. Use an ordinance or other regulatory mechanism to address post-construction runoff. Ensure adequate long-term operation and maintenance of BMPs.**

5.2 Current Programs

Currently, the Municipality _____
_____.

5.3 Selected BMPs for Post Construction Storm Water Management for New Development/Redevelopment

5.3.1 BMP1 Ordinance for Post-Construction Controls for New Development and Redevelopment

The Municipality will enact an ordinance or other regulatory mechanism to require post-construction runoff controls from new development and redevelopment and ensure proper long-term operation and maintenance of controls. This BMP does _____. It will be integrated into existing activities by _____
_____.

5.3.1.1 Measurable Goals

The measurable goal for implementation of BMP2 is to develop the ordinance, requirements and procedures in the first permit year and enact them in the second permit year. Development and implementation will be according to the schedule below.

5.3.1.2 Schedule

Program	BMP	Activity	Date Due
4. Post-Construction Controls for New Development/ Redevelopment	Ordinance requiring post-construction controls for new development and redevelopment	1. Develop a draft ordinance	3/10/04
		2. Finalize ordinance	3/10/05
		3. Implement ordinance	3/10/05

5.3.1.3 Responsible Persons

The _____ has responsibility for implementation of BMP2 to meet Measurable Goal 5.3.1.1.

5.3.2 BMP2 *(substitute descriptive name of BMP)*

Municipality has selected (Best Management Practice_____) (in Appendix V) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities _____ _____.

5.3.2.1 Measurable Goals

The measurable goal for implementation of BMP2 is to _____ _____. Development and implementation will be according to the schedule below.

5.3.2.2 Schedule

Program	BMP	Activity	Date Due
5. Post Construction Storm Water Management for New Development/ Redevelopment		1.	
		2.	
		3. Implementation Complete (meets Measurable Goal 5.3.2.1)	

5.3.2.3 Responsible Persons

_____ has responsibility for implementation of BMP2 to meet Measurable Goal 5.3.2.1.

6. Pollution Prevention/Good Housekeeping for Municipal Operations

6.1 Regulatory Requirement

> **40 CFR 122.34 (b)(6) –Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.**

6.2 Current Programs

Currently, the Municipality

_____

_____.

6.3 Selected BMPs for Municipal Operations

6.3.1 BMP1

The Municipality has selected (Best Management Practice_____) (in Appendix VI) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities by _____.

6.3.1.1 Measurable Goals

The measurable goal for implementation of BMP1 is_____. Development and implementation will be according to the schedule below.

6.3.1.2 Schedule

Program	BMP	Activity	Date Due
6. Pollution Prevention/ Good Housekeeping for Municipal Operations			
		3. Implementation Complete (meets Measurable Goal 6.3.1.1)	

6.3.1.3 Responsible Persons

_____ has responsibility for implementation of BMP1 to meet Measurable Goal 6.3.1.1.

6.3.2 BMP2

The Municipality has selected (Best Management Practice_____) (in Appendix VI) for implementation as part of this Storm Water Management Program. This BMP does _____. It will be integrated into existing activities by _____.

6.3.2.1 Measurable Goals

The measurable goal for implementation of BMP2 is_____. Development and implementation will be according to the schedule below.

6.3.2.2 Schedule

Program	BMP	Activity	Date Due
6. Pollution Prevention/ Good Housekeeping for Municipal Operations			
		3. Implementation Complete (meets Measurable Goal 6.3.2.1)	

6.3.2.3 Responsible Persons

_____ has responsibility for implementation of BMP1 to meet Measurable Goal 6.3.2.1.

CBI SYSTEMS, Ltd.

SOFTWARE SOLUTIONS

Re: EPA NPDES Phase II Stormwater Program
MS4 Permit Manager™

Dear Sir or Madaam:

As you know, the EPA and many State Regulatory Agencies have recently promulgated the NPDES Phase II MS4 Storm Water Rule and Permit. This rule affects many municipalities and entities located within the 2000 "Urbanized Area" as defined by the U.S. Census Bureau. The federal mandate requires the affected municipalities to obtain NPDES permit coverage for the discharge of stormwater from the municipal separate storm sewer systems (MS4) to waters of the U.S. Permit compliance was required by March 10, 2003 but could vary from state to state depending on the State Permitting Authority.

Compliance with this rule includes not only the submission of a comprehensive storm water management program (SWMP) but also the implementation of the program perpetually. Critical records documenting the permit implementation must be kept and reported annually in an annual report.

CBI Systems, LTD has developed the MS4 Permit Manager™ software package to aid affected municipalities in the creation of the storm water management plan (SWMP) and the implementation of the program. This software package will allow the user to develop a comprehensive customized storm water management plan complete with measurable goals, implementation schedules, and proposed budgets. The user has maximum flexibility in the choosing of BMP's. A map system is also included which will allow the user to develop an integrated municipal separate storm sewer system (MS4) map. The map comes complete with urbanized area coverage, base hydrology, roads, and highways. The permittee may enter storm water outfall locations graphically or by latitude/longitude and quickly generate the required outfall location map. All records generated during implementation are stored in a database which will allow the user to automatically create an annual report that is required to be submitted at the end of each year during the permit term. The annual report is created in rich text format (RTF) which provides for the manipulation of the document in any word processor. A feature will be added to this package in the near future that will provide for electronic submission of the annual report. Additionally, the back end database for the application is open which will allow trained GIS users to link data to an existing GIS or perform other data access needs.

CBI Systems, Ltd. is offering the MS4 Permit Manager™ software package on a trial basis with deferred payment options. The trial period will extend to the due date for the first annual report. This will allow permittees to utilize the MS4 Permit Manager™ package to manage their MS4 permit for the first permit year and develop the first annual report. At that time, permittees will have the option of either purchasing the software package or allowing

3120 Fannin St.
Beaumont, TX 77701

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Fax: (409) 833-0317

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it to expire with absolutely no financial obligation.

The MS4 Permit Manager™ CD included with this letter is a fully functional version and is ready for your use on either a purchase basis or on the trial basis. When the program is run for the first time, you will be required to fill in a brief data sheet in order to receive an authorization code either by fax or over the internet. The software may be utilized until the first Annual Report due date at which time it will cease to function. When a purchase is made, an additional authorization code will be issued which will remove the date lock. Please feel free to utilize this software package until the expiration date.

Also enclosed is a summary of the purchase options for your information. If you are interested in either purchasing this software package or need additional information on the trial use program, please do not hesitate to call me at the phone number below or email me at tdavis@cbieng.com.

You may visit our website at www.cbi-systems.com for more information on our software. There is a free downloadable demo of the available software on our website, or if requested, we will send a demo version on CD.

Engineering consulting services can be provided through our affiliate organization, Carroll & Blackman, Inc. Consulting Engineers. Carroll & Blackman, Inc. has over 10 years experience in development and implementation of Phase 1 Storm Water Management Programs for municipalities, DOT's, and drainage districts. Carroll & Blackman, Inc. has worked with many Phase 2 entities to develop their Storm Water Management Programs including cities, counties, drainage districts and DOT's.

We are also in the process of completing a similar software package for the purpose of creating and managing construction storm water pollution prevention plans. Please refer to our website for more information on that software package.

If you have any questions, please feel free to call.

Sincerely,

Toby J. Davis, P.E.
CBI Systems, LTD
(409) 833-3363
tdavis@cbieng.com

CBI SYSTEMS

MS4 Permit Manager™

TRIAL USE PROGRAM

- ★ USE FOR A TRIAL PERIOD ENDING ON THE FIRST ANNUAL REPORT DUE DATE
- ★ DEVELOP A STORM WATER MANAGEMENT PROGRAM
- ★ DEVELOP AN OUTFALL MAP AND INVENTORY
- ★ MANAGE DATA ACQUIRED DURING BMP IMPLEMENTATION
- ★ SIMPLY PRODUCE ANNUAL REPORTS

Authorization and registration for trial use is required upon product installation. At the end of the trial use period, the software will automatically cease to function. If continued use of the software is requested at the end of the trial period based on execution of a purchase option, the software will be re-authorized. If continued use of the software is not requested at the end of the trial period, the user agrees to remove (uninstall) the software from the hard disk or other storage device and discontinue any and all use of the software.

Purchase Options

	OPTION	PAYMENT TERM	PAYMENT AMOUNT	TOTAL PRICE
1	Purchase (Up to 90 days after installation)	One payment	$4,985	$4,985
2	Payment Plan (Up to 90 days after installation)	5 Annual Payments	$1,100	$5,500
3	Purchase (At the end of trial use period)	One payment	$5,500	$5,500
4	Payment Plan (At the end of trial use period)	4 Annual Payments	$1,500	$6,000
5	Multi-user packages available on a per quote basis			

CBI SYSTEMS, Ltd.

SOFTWARE SOLUTIONS

July 18, 2003

Madams/Sirs:

Enclosed is a fully functional version of the MS4 Permit Manager™ software for your use. When the program is run for the first time, you will be required to fill in a brief data sheet in order to receive an authorization code either by fax or over the internet. The software may be utilized until the first Annual Report due date, at which time it will cease to function. When a purchase is made, an additional authorization code will be issued which will remove the date lock.

Also enclosed is a summary of the Trial Use Program and a purchase option list. We will follow up in the next week with information regarding maintenance and support programs and pricing.

Sincerely,

Kim Carroll, P.E.

KC/kc

R:\CBI Systems\Trial program transmittal.wpd

3120 Fannin St.
Beaumont, TX 77701

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Phase II MS4 Permit Manager™

TRIAL USE PROGRAM

- ★ USE FOR A TRIAL PERIOD ENDING ON THE FIRST ANNUAL REPORT DUE DATE
- ★ DEVELOP A STORM WATER MANAGEMENT PROGRAM
- ★ DEVELOP AN OUTFALL MAP AND INVENTORY
- ★ MANAGE DATA ACQUIRED DURING BMP IMPLEMENTATION
- ★ SIMPLY PRODUCE ANNUAL REPORTS

Authorization and registration for trial use is required upon product installation. At the end of the trial use period, the software will automatically cease to function. If continued use of the software is requested at the end of the trial period based on execution of a purchase option, the software will be re-authorized. If continued use of the software is not requested at the end of the trial period, the user agrees to remove (uninstall) the software from the hard disk or other storage device and discontinue any and all use of the software.

Purchase Options

	OPTION	PAYMENT TERM	PAYMENT AMOUNT	TOTAL PRICE
1	Purchase (Up to 90 days after installation)	One payment	$4,985	$4,985
2	Payment Plan (Up to 90 days after installation)	5 Annual Payments	$1,100	$5,500
3	Purchase (At the end of trial use period)	One payment	$5,500	$5,500
4	Payment Plan (At the end of trial use period)	4 Annual Payments	$1,500	$6,000
5	Multi-user packages available on a per quote basis			

CBI SYSTEMS

MS4 Permit Manager™

ONE YEAR TRIAL USE PROGRAM

- ★ USE FOR A TRIAL PERIOD ENDING ON THE FIRST ANNUAL REPORT DUE DATE
- ★ DEVELOP A STORM WATER MANAGEMENT PROGRAM
- ★ DEVELOP AN OUTFALL MAP AND INVENTORY
- ★ MANAGE DATA ACQUIRED DURING BMP IMPLEMENTATION
- ★ SIMPLY PRODUCE ANNUAL REPORTS

Authorization and registration for trial use is required upon product installation. At the end of the trial use period, the software will automatically cease to function. If continued use of the software is requested at the end of the trial period based on execution of a purchase option, the software will be re-authorized. If continued use of the software is not requested at the end of the trial period, the user agrees to remove (uninstall) the software from the hard disk or other storage device and discontinue any and all use of the software.

Purchase Options

	OPTION	PAYMENT TERM	PAYMENT AMOUNT	TOTAL PRICE
1	Purchase (Up to 90 days after installation)	One payment	$4,985	$4,985
2	Payment Plan (Up to 90 days after installation)	5 Annual Payments	$1,100	$5,500
3	Purchase (At the end of trial use period)	One payment	$5,500	$5,500
4	Payment Plan (At the end of trial use period)	4 Annual Payments	$1,500	$6,000
5	Multi-user packages available on a per-quote basis			

Jim Pierce

From: Mary Tatum [mtatum@nctcog.org]

Sent: Thursday, July 10, 2003 5:00 PM

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Cc: Derin Warren; Keith Kennedy; Jeff Rice; Leslie Calderon; Tara O'Keefe

Subject: REMINDER: Phase II Permit Management - Software Package Presentation

Hello to all,
I wanted to remind everyone of the presentation that CBI Systems of Beaumont will be making of their "Phase II MS4 Permit Manager" software on **Wednesday, July 16 at 1:30 p.m. at the COG offices, 616 Six Flags Drive, Arlington.** Reservations are not necessary, but it would be helpful if you could let us know if you plan on attending the presentation.

As was mentioned in the earlier email announcement, the software package is designed to assist MS4 owner/operators with developing and managing a storm water management plan and other aspects of permit compliance. This type of software is becoming more prevalent and some have found it quite useful. It is the same software that was presented at the TX DOT-Dallas District (Jim Crisp's office) back in February. Please visit http://www.cbi-systems.com/ to learn more about the "Phase II MS4 Permit Manager". COG staff have not fully evaluated it and are not recommending or endorsing it in any way but simply wanted to provide you an opportunity to examine it for yourselves.

ADDISON CONFERENCE & THEATRE CENTRE

Sect 18-76 Stormwater Runoff

Sect 507.1 2000 International Property Maint. Code
Can't create a nuisance

the interest of public safety and convenience, and then only by permission of the city manager.

(3) Exception. The provisions of this section shall not apply to the city and utility companies when engaged in the installation or repair of utility lines situated within such buildings or structures.

(4) Posting of sign. The owner of the property upon which activity is carried on or the general contractor shall be responsible for the posting of a sign in a clearly visible area at all entrances to construction sites that will state the hours during which construction is allowed.

Sec. 18-76. Storm water runoff.

The International Building Code is amended by adding Section 3315 to read as follows:

Section 3315. Storm water runoff.

3315.1. General requirements.

It shall be unlawful for any person on any construction site to allow excessive storm water runoff to be discharged directly into any public street, alley or private street so as to create a nuisance. Should surface runoff be declared a nuisance by the city, the builder and/or developer of the site may be required to construct dikes or dams on site to form detention areas such that storm water may be temporarily detained until such storm abates at which point the trapped water may be slowly released. It shall be the responsibility of the builder and/or developer at a construction site to remove any dirt or mud deposit on adjacent public streets, alleys or private streets as a result of storm water runoff.

Sec. 18-77. Building security.

The International Building Code is amended by adding Chapter 36 to read as follows:

Chapter 36
Building Security

Section 3601. Title, purpose and scope.

Design Manual for Construction

The *integrated* Storm Water Management (*i*SWM) Design Manual for Construction is *the* source for guidance on construction site storm water management in the North Central Texas Region.

The *i*SWM Design Manual for Construction contains a stepwise methodology for creating an effective storm water pollution prevention plan for construction sites and detailed information for the design, installation, and maintenance of practices to reduce the release of sediment and other pollutants resulting from construction activities. The Design Manual for construction is also intended to assist public and private entities in compliance with the Texas Pollutant Discharge Elimination System (TPDES) General Permit for Construction Storm Water Runoff, TXR 150000, issued by the Texas Council on Environmental Quality (TCEQ).

Table of Contents

Best Management Practices

In order to address the requirements of pollution reduction at construction sites, a variety of techniques should be employed to reduce soil erosion, reduce site sediment loss, and manage construction-generated waste and construction related toxic materials.

Erosion Prevention BMPs

- Interceptor Swale
- Diversion Dike
- Pipe Slope Drain
- Vegetation
- Mulching
- Erosion Control Blankets
- Channel Protection
- Dust Control

Sediment Loss Prevention BMPs

- Silt Fence
- Organic Filter Berm
- Triangular Filter Sediment Dike
- Stone Outlet Sediment Trap
- Inlet Protection
- Sediment Basin
- Check Dam
- Temporary Sediment Tank
- Stabilized Construction Entrance
- Wheel Wash

Materials and Waste Management BMPs

- Debris and Trash Management
- Chemical Management
- Concrete Waste Management
- Concrete Sawcutting Waste Management
- Sandblasting Waste Management
- Sanitary Facilities
- Lime Stabilization Management

Additional information and files for free download are available at www.iswm.dfwinfo.com. Printed versions of the manual can be ordered from the North Central Texas Council of Governments at (817) 640-3300.

Storm *Integrated* Water Management

*i*SWM

the comprehensive drainage resource for North Central Texas

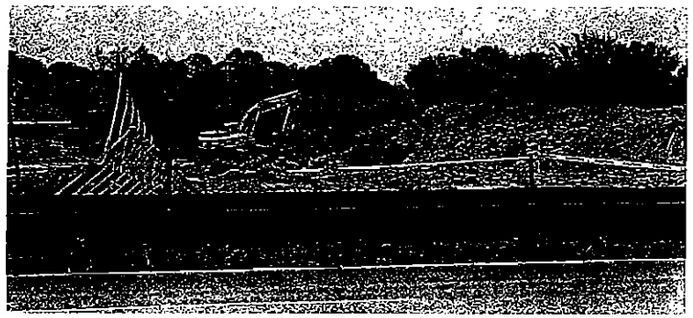
Design Manual for Construction

www.iswm.dfwinfo.com

Storm Water Pollution Prevention Plan Design and Implementation

The construction Storm Water Pollution Prevention Plan (SWPPP) is the primary tool for reducing erosion and preventing sediment loss from a construction site along with the control of construction related chemicals and wastes. The SWPPP consists of a written description (narrative) and drawing sheets that detail the existing conditions and the control methods to be employed on a construction site.

The steps involved in developing an effective construction SWPPP include collection and analysis of physical site information followed by design and development of the narrative and drawing components of the SWPPP.



Data Collection and Analysis

Gathering information on site conditions will aid in the development of an effective construction SWPPP. The information should be documented and explained in the narrative and/or shown on the drawings. Conditions to be evaluated include:

- Topography (slope, particularly steep slopes)
- Drainage features (existing natural drainage patterns, swales, streams; and existing storm drain pipes)
- Soils (soil type, erodibility, etc.)
- Ground cover (trees, shrubs, grasses, etc.)
- Critical areas (steep slopes, wetlands, floodplains, streams, lakes, etc.)
- Adjacent areas (existing roads, buildings, etc.)
- Precipitation (average rainfall amount and intensity during anticipated construction period)

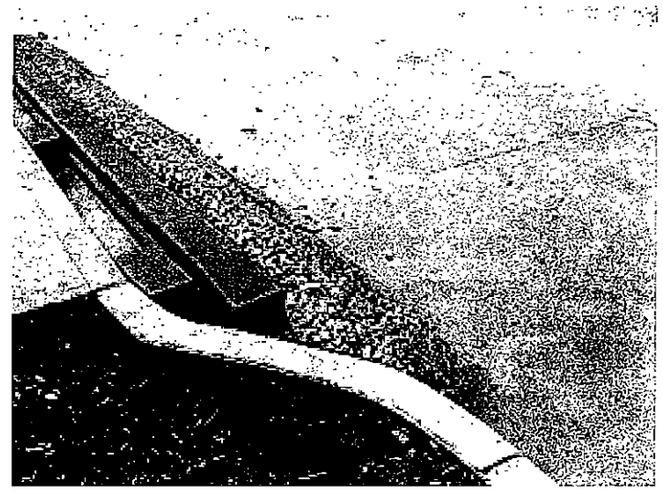
Construction SWPPP Development

After collecting and analyzing the data to determine the site limitations, the designer can then develop the construction SWPPP. The steps outlined in the Ten Elements of a Construction SWPPP present a logical sequence for preparing a comprehensive storm water pollution plan based on the site conditions and sound erosion and sediment control practice.

Ten Elements of a Construction SWPPP

The Ten Elements provide a framework for proper SWPPP design, and are also intended to encompass the requirements of the TPDES Construction General Permit. Each of the Ten Elements must be considered and included in the SWPPP, unless site conditions render the step unnecessary.

1. Limit Soil Disturbance – To the greatest extent practicable, limit the extent of clearing operations to preserve native topsoil and natural vegetation. Also, preserve natural drainage features and buffer areas. Provide measures to be implemented to ensure protection.
2. Prevent Soil Erosion - Provide temporary and permanent stabilization practices for disturbed areas of the site.
3. Protect Slopes - Provide practices to protect slopes and divert flows away from exposed soils or disturbed areas.
4. Minimize Sediment Loss from Site - Provide practices to lessen the off-site transport of sediment and to reduce generation of dust. Sediment basins are required, where feasible, for common drainage locations that serve an area with ten or more acres disturbed at one time.
5. Control Flow Rates and Stabilize Channels/Outfalls – Provide velocity dissipation devices used at discharge locations and channel stabilization measures to provide non-erosive flows.
6. Establish Construction Access – Provide measures to minimize the off-site tracking of sediment by vehicles.
7. Protect Drain Inlets - Provide inlet protection measures to prevent sediment from entering the storm drain system.
8. Control Dewatering - Provide controls to prevent the off-site transport of suspended sediments and other pollutants in discharges from dewatering operations.
9. Control Waste and Pollutants – Provide practices and controls to reduce pollutants and spill prevention and response procedures associated with construction and waste materials.
10. Construction Phasing and Project Management – Consider project phasing in order to reduce the amount of soil exposed at one time.



Inspection and Maintenance of BMPs

Most Best Management Practices used to limit erosion and reduce sediment loss on construction sites are temporary devices. Inherent in the design of the devices is the need for maintenance. The devices will not perform at peak efficiency throughout the duration of the construction project without inspection and necessary maintenance.

All BMPs must be inspected, maintained, and repaired as needed to assure continued performance of their intended function. Whenever inspection reveals that the BMPs identified in the construction SWPPP are inadequate, the SWPPP must be modified accordingly in a timely manner. BMPs must then be added or modified in accordance with SWPPP changes.