

## **Introduction**

### **Purpose and Scope of this Manual**

Stormwater management has entered a new phase in the state of Louisiana. The requirements for National Pollutant Discharge Elimination System (NPDES) municipal and industrial permits, Total Maximum Daily Loads (TMDLs), watershed assessments and the desire to protect human life, property, aquatic habitats and the quality of life in our communities has brought home the pressing need to manage both stormwater quantity and quality from our developed and developing areas. The City of Baton Rouge – Parish of East Baton Rouge Planning Commission (CPPC) and Louisiana Department of Environmental Quality (LDEQ) have stated their intent to produce a technical guidance manual for urban stormwater treatment in East Baton Rouge Parish.

The East Baton Rouge Parish Stormwater Best Management Practice (BMP) Manual is jointly prepared by the CPPC and the Department of Civil and Environmental Engineering at the Louisiana State University. The manual will help East Baton Rouge Parish move forward with proven effective BMPs for urban stormwater treatment. The purpose of this manual is to provide general guidance for selecting and implementing BMPs to reduce impacts of stormwater discharges on receiving waters in newly developed areas and redeveloped areas. The manual includes fact sheets for twelve BMPs which are widely employed in stormwater treatment and detailed design and operation procedures for six BMPs that are specifically tailored to East Baton Rouge Parish's regulatory and environmental conditions. The full scope of the Manual is outlined in the Table of Contents.

### **BMP Fact Sheets and Selection**

Chapter 1 of this manual provides the framework for an informed selection of BMPs by the development of BMP fact sheets and a three-step process. Fact sheets are prepared for 12 BMPs suited to Baton Rouge's soil and land use conditions. The fact sheets are categorized, focused, and concise so as to be used as quick references for design, inspection, and maintenance guidance. In this way, the fact sheets are designed to be stand-alone documents that may be distributed to facilitate focused discussion about design and/or implementation of the management practice.

The BMP screening process is guided by select matrices for stormwater BMPs included in the manual and guides the designer through three-step process to help in selecting the most appropriate BMP or combination of BMPs for a site. Each step includes an accompanying matrix with the twelve BMPs evaluated and listed in the fact sheets. The matrices provide initial screening of the BMPs.

### **BMP Design, Construction, Operation and Maintenance**

Chapters 2 through 7 of the Manual provide guidelines for construction, operation, and maintenance of the six BMPs recommended for East Baton Rouge Parish based on soil type, to

achieve required performance. Each chapter describes one BMP separately and contains the following sections generally:

- (1) General description of BMP
- (2) Components and their functions
- (3) Variations and applications
- (4) Pollution reduction capabilities and mechanisms
- (5) Planning and design criteria
- (6) Construction specifications
- (7) Operation and maintenance requirements including some inspection checklists
- (8) Construction and maintenance costs, and
- (9) Design procedure

The six BMPs are recommended for controlling all aspects of stormwater: rate, volume, and quality. Controlling the peak rate of flow during extreme rainfall events is important, but it is not sufficient to protect the quality and integrity of Louisiana streams. Reducing the overall volume of runoff during large and small rainfall events, improving water quality, and maintaining groundwater recharge for wells and stream flow are all important to a program of protecting and improving the quality of Louisiana's streams and waterways.

### **Users of the Manual**

This manual provides guidance suitable for use by individuals involved in development or redevelopment site water pollution control and planning. Each handbook user is responsible for working within their capabilities obtained through training and experience, and for seeking the advice and consultation of appropriate experts at all times.

The target users for this handbook include: developers, including their planners and engineers; contractors and subcontractors, including their engineers, superintendents, foremen, and construction staff; municipal agencies involved in site development and redevelopment including their engineers, planners, and construction staff; regulatory agencies including permit and planning staff; and the general public with an interest in stormwater pollution control.

Manual users are strongly encouraged to follow the process of prevention first and mitigation second.

### **Regulatory Status of the Manual**

In 1972, provisions of the Federal Water Pollution Control Act, also referred to as the Clean Water Act (CWA), were amended so that discharge of pollutants to waters of the United States from any point source is effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which established a framework for regulating municipal, industrial, and construction stormwater discharges under the NPDES program. On November 16, 1990, US EPA published final regulations that established application requirements for stormwater permits for municipal separate storm sewer systems (MS4s) serving a population of over 100,000 (Phase I communities) and certain industrial facilities, including construction sites greater than 5 acres.

On December 8, 1999, US EPA published the final regulations for communities under 100,000 Phase II MS4s) and operators of construction sites between 1 and 5 acres.

This Manual has been developed to provide guidance on the latest and most relevant stormwater management strategies and practices for East Baton Rouge Parish. Much of this guidance focuses on stormwater treatment techniques and practices that prevent and reduce stormwater problems. The Manual itself has no independent regulatory authority. The design, construction, operation, and maintenance guidelines in the manual can only become required through:

1. Ordinances and rules established by local municipalities, and
2. Permits and other authorizations issued by local, state, and federal agencies.

