



CITY OF LEWISVILLE

**STORM WATER
MANAGEMENT PLAN**

DECEMBER 2007

TABLE OF CONTENTS
CITY OF LEWISVILLE
STORM WATER MANAGEMENT PLAN

PART I

Overview of Phase II Program

Definitions

PART II

City Background

Plan Development Process

Assessment of Non-Storm Water Discharges

PART III

Minimum Control Measures

PART IV

Notice of Intent Form

TPDES General Permit No. TXR040000

PART I

OVERVIEW OF PHASE II PROGRAM

PERMIT HISTORY

Since the passage of the Clean Water Act (CWA) in 1972, the quality of our nation's water has improved dramatically. Despite this progress, degraded water bodies still exist. A leading source of this impairment is polluted runoff from urban/suburban areas. Polluted storm water runoff is often transported to Municipal Separate Storm Sewer Systems (MS4s) and ultimately discharged into local rivers and streams without treatment. In 1990, the Environmental Protection Agency (EPA) promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s required operators of medium and large MS4s to control polluted discharges from their MS4s. Phase I addressed those urban areas that serve populations of 100,000 or greater. The storm water Phase II rule extends coverage of the NPDES storm water program to certain small MS4s located in urbanized areas as defined by the Bureau of the Census and on a case-by-case basis for other small MS4s.

In September 1998, the EPA authorized the State of Texas to develop and implement the Texas Pollutant Discharge Elimination System (TPDES) program, which includes administration of the MS4 Phase I and Phase II Permits. The Texas Commission on Environmental Quality (TCEQ) has issued a general permit for Phase II MS4s that authorizes storm water and certain non-storm water discharges to surface water in the state. The permit requires submission of a Notice of Intent (NOI), a Storm Water Management Plan (SWMP), and appropriate recordkeeping and reporting during the five-year permit period.

STORM WATER MANAGEMENT PLAN REQUIREMENTS

Operators of Phase II MS4s are required to design storm water management programs that accomplish these three objectives:

- Reduce the discharge of pollutants to the maximum extent practicable (MEP)
- Protect water quality
- Satisfy the appropriate water quality requirements of the CWA

Implementation of the MEP standard requires the development and implementation of best management practices (BMPs) and the achievement of measurable goals to satisfy six minimum control measures (MCMs). It is expected that when these six elements are addressed in concert, it will result in significant reductions of pollutants being discharged into receiving water bodies. The six MS4 program MCMs are:

- Public Education and Outreach
- Public Participation/Involvement

- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post-Construction Runoff Control
- Pollution Prevention/Good Housekeeping

RECORDKEEPING AND REPORTING REQUIREMENTS

A primary component of the MS4 general permit is recordkeeping that allows for periodic evaluation of the management plan and for annual reporting to the TCEQ on the status of the plan. Specifically, Phase II MS4s are required to:

- Retain all records, a copy of the TCEQ general permit, and records of all data used to complete the NOI for a period of three years or for the term of the TCEQ permit, whichever is longer.
- Retain a copy of the SWMP at a location accessible to the TCEQ.
- Make the records, including the NOI and SWMP, available to the public if requested to do so, in writing. The SWMP must be made available within two working days following the request from the public. Other records must be provided within ten working days, unless the request requires an unusual amount of time or effort to assemble, in which case Texas law regarding the Public Information Act will be followed. Reasonable charges, in accordance with Texas law, may be levied by the permittee for researching and preparing any requested materials.
- The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

The general reporting requirements for MS4s include:

Noncompliance Notification – Any noncompliance which may endanger human health or safety, or the environment, in accordance with 30 TAC Chapter 305.125(9), must be reported by the MS4 to the TCEQ. Oral and/or facsimile notification of the noncompliance must be made within 24 hours of becoming aware of the issue. A written report must be provided to the TCEQ within five working days. Additionally, the MS4 must promptly submit to TCEQ any facts or information relevant to an NOI, Notice of Termination (NOT), Notice of Change (NOC), or any other report.

Annual Report – MS4s must submit a concise annual report to the TCEQ Executive Director within 90 days of the end of each permit year. A copy of the annual report must be readily available for review by authorized TCEQ personnel. The report generally includes status of compliance with permit conditions, assessment of the BMPs defined in the SWMP and their relative effectiveness, progress towards reducing the discharge of pollutants into the MS4, and an evaluation of the success of the implementation of the measurable goals for each of the MCMs.

The annual report should also include a summary of proposed changes to the SWMP planned for the next reporting cycle.

A copy of the TPDES General Permit No. TXR040000 is included in the Appendix of this document.

THE CITY OF LEWISVILLE'S RESPONSE

As a Phase II MS4, the City of Lewisville is required to develop a Storm Water Management Plan (SWMP) that describes specific actions that will be taken over a five-year period to reduce pollutants and protect Lewisville's storm water quality to the maximum extent practicable. These activities are addressed in the BMPs contained in the following pages of this document. The SWMP also sets measurable goals and provides a proposed schedule for the implementation of the BMPs. The City of Lewisville intends to fully comply with all recordkeeping and reporting requirements of the MS4 general permit.

The SWMP is administered by the Department of Public Services with cooperation from various other City departments. Questions or comments about the City of Lewisville Storm Water Management Plan should be directed to:

Carole Bassinger
Director of Public Services
P.O. Box 299002
Lewisville, TX 75029-9002
(972) 219-3504

DEFINITIONS

Best Management Practices (BMPs) – Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce pollution. BMPs may include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Clean Water Act (CWA) – The Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972; legislation which provides statutory authority for the National Pollutant Discharge Elimination System program.

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.

Discharge – To deposit, conduct, drain, emit, throw, run, allow to seep, or otherwise release or dispose of, or to cause, allow, permit, or suffer any of these acts or omissions.

Erosion – The process of land being diminished or worn away due to wind, water, or glacial ice. Occurs naturally, but can be intensified by land disturbing activities such as development, farming, road building, timber harvesting, etc.

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 authorized under the MS4 general permit or a separate TPDES permit and discharges resulting from fire fighting 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). Since no precise definition of MEP exists, it allows for maximum flexibility on the part of the MS4 operators as they develop and implement their storm water programs.

Minimum Control Measure (MCM) – Categories of methods or best management practices used to prevent used to prevent or reduce the discharge of pollutants.

MS4 Operator: The public entity, and/or the entity contracted by the public entity, responsible for management and operation of the municipal separate storm sewer system

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains that are (1) owned or operator by the United States, a state, city, town, borough, county, district, association, or other public body having jurisdiction over disposal of storm water; (2) designed or used for collecting or conveying storm water; (3) which

is not a combined sewer; (4) which is not part of a publicly owned treatment works (POTW) as defined at 40 CFR Section 122.2; (5) which was not previously authorized under a NPDES or TPDES individual permit as a medium or large MS4 system; (6) which does not include very discreet systems such as those serving individual buildings.

National Pollutant Discharge Elimination System (NPDES) – The national program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing requirements of certain sections of the federal Clean Water Act.

Notice of Intent – A written submission to the Executive Director of the TCEQ from an applicant requesting coverage under the TPDES general permit.

Outfall – A point source at the point where a municipal separate storm sewer discharges to surface water in the State 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.

Runoff – Drainage or flood discharge that leaves an area as surface flow or as pipeline flow.

Sanitary Sewer – The system of pipes, conduits, and other conveyances which carry industrial waste and domestic sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, to the City sewage treatment plant (and to which storm water, surface water, and groundwater are not intentionally admitted).

Sediment – Soil, sand, and minerals washed from land into water, usually after rain.

Storm Drain – An opening leading to an underground pipe or an open ditch for carrying surface runoff.

Storm Water - Any flow occurring during or after any form of natural precipitation, including storm water runoff, snowmelt runoff, and surface runoff and drainage.

Storm Water Management – Functions associated with planning, designing, constructing, maintaining, financing, and regulating the facilities (constructed and natural) that collect, store, control, and/or convey storm water.

Texas Pollutant Discharge Elimination System (TPDES) – State program for issuing, modifying, revoking and reissuing, terminating, imposing and enforcing requirements of certain sections of the Clean Water Act.

Urbanized Area – A Bureau of the Census determination of a central place or places and the adjacent densely settled surrounding territory that together have a minimum residential population of 50,000 people and a minimum average density of 1,000 people per square mile.

PART II

BACKGROUND INFORMATION

SETTING

The City of Lewisville, located in Denton and Dallas Counties, Texas, was incorporated in 1925. It covers 43 square miles, and is approximately 579 feet above sea level. Lewisville has an average winter temperature of 55°F and an average summer temperature of 95°F. Average annual rainfall is 32 inches, with an average of 79 rainy days per year. The current population is 91,550 as of January 1, 2007. Lewisville Lake is on the northern boundary of the city, and the lake flows into the Elm Fork of the Trinity River on the east side of the city. Lewisville is in an urbanized area as defined by the Bureau of the Census and is therefore subject to Phase II regulations of the Clean Water Act.

LEGAL AUTHORITY

The City of Lewisville is a chartered home-rule municipality, operated by a City Council/City Manager structure. Elected officials include the Mayor and five at-large City Council Members. The City regulates activities within its boundaries through ordinances designed to protect the safety, health, and welfare of its citizens. There are various ordinances that may be affected by the Storm Water Management Plan. These include:

- General Development Ordinance
- Industrial Waste/Pretreatment and Pollution Control Ordinance
- Interceptor Ordinance

Additionally, the City will consider an ordinance to establish a storm water utility fee to fund the Storm Water Management Program.

INSPECTION, MAINTENANCE AND ENFORCEMENT

There are several departments involved in the administration and implementation of the City's SWMP. Coordination of the SWMP is handled through the Storm Water Division of the Department of Public Services with ongoing assistance from other City departments.

The Department of Community Development plays a key role in implementing the SWMP. This department encompasses the activities of Planning and Community Services, Engineering, Building Inspection, Fire Prevention, and Health and Code Enforcement. Routine updating of many City ordinances and their uniform enforcement falls under the jurisdiction of this department. This department is responsible for overseeing land use through administration of the Zoning Ordinance and General Development Ordinance. Regularly scheduled plan review

meetings are conducted with contractors, developers, and other property owners to regulate all development activities taking place in Lewisville.

The Department of Parks and Leisure Services is responsible for maintaining green areas of the city including parks, greenbelts and medians. The Department of Parks and Leisure Services is responsible for applying and managing pesticides and herbicides.

The Utilities Section of the Department of Public Services is primarily responsible for providing water and sewer services in Lewisville. To effectively provide those services, the Utilities Section must protect those systems from pollutants and accomplishes this through the efforts of its various divisions. The Environmental Control Services (ECS) Division monitors local commercial and industrial users and all direct discharges to the Publicly Owned Treatment Works (POTW) as part of the Wastewater Treatment Plant's TPDES permit, and monitors the cleanup of unauthorized discharges and spills in compliance with the Texas Water Code to protect the quality of water in creeks and streams within the city limits. The ECS laboratory performs process analyses and sampling to ensure compliance with federal and state regulations.

The Public Works Section of the Department of Public Services is primarily charged with the maintenance activities of the SWMP. Streets maintenance is responsible for maintenance of city streets, sidewalks, alleys, and drainage systems. The Streets Division currently maintains approximately 550 lane miles of city streets and the MS4 storm drainage infrastructure. Utility Line Maintenance (ULM) ensures the delivery of potable drinking water and sewer services by maintaining the integrity of the water distribution and wastewater collection systems. ULM maintains approximately 250 miles of water lines and 200 miles of sewer lines. The Public Works Section also includes Traffic.

OUTREACH

The City's Department of Community Relations and Tourism assists the Department of Public Services with dissemination of public information about various environmental issues. Information is made available to residents and the business community through the City's dedicated local cable channel, City website, City newsletter, neighborhood kiosks, educational events, informational pamphlets/brochures and various newspapers. In addition to the information distributed through these City resources, pollution prevention public education programs and events are conducted on a regular basis by Keep Lewisville Beautiful, a 501(c)(3) nonprofit organization that partners with the City on numerous projects.

PROGRAM FUNDING

The City of Lewisville funds the Storm Water Management Program through the Utility Fund of the City Operating Budget. A storm water utility fee may be introduced in the future to finance the program in full, or to supplement a portion of the program costs. If implemented, the revenue from the fees collected from residential and commercial properties would be used to

cover costs for storm water system maintenance activities and associated personnel, drainage projects, monitoring, sample analyses, and equipment/supplies.

PLAN DEVELOPMENT PROCESS

The Storm Water Phase II program is designed to allow MS4s to develop effective management programs that fit the specific needs and capabilities of the MS4 operator. This flexibility, referred to, as “maximum extent practicable” in the permit, is appropriate because of the uniqueness of the variables that affect what actions are needed to reduce the potential for pollution of storm water in each MS4. Lewisville’s SWMP has been designed to provide for assessment of existing programs in the early part of the permit term and implementation of new initiatives or continuance of successful current practices throughout the remainder of the permit term.

SELECTION OF BMPs AND MEASURABLE GOALS

The City of Lewisville has participated in numerous work groups in the region and maintained contact with the TCEQ and EPA regarding Phase II programs. Generally, the City has historically been conscientious about all types of pollution prevention programs. Whenever it has been feasible, the City has sought to be a part of regional efforts that support sharing of information and even sharing of credit for storm water initiatives. Research of other MS4 plans produced a long list of options for best management practices available to Lewisville. The SWMP is based on the information obtained through these outside contacts and information collected internally from the Department of Public Services’ Utilities and Public Works Sections, Department of Community Development, Department of Parks and Leisure Services, and City Management. Some of the BMPs included in Lewisville’s SWMP are existing programs that can be continued as is, or may need enhancement or limited revision. There are also several new activities added to provide a comprehensive and effective plan.

Selection of the BMPs, measurable goals, and an implementation schedule was based on what was seen as necessary and achievable by those parties who will be responsible for accomplishing the activities supporting the BMPs. Consideration was also given to whether or not inclusion of the activities in the SWMP would meet the permit requirements. Obviously, costs associated with implementing the various BMPs and measurable goals will be evaluated on an annual basis. Implementation of each BMP will be tracked as required during each year of the permit. Adjustments to the BMPs and implementation schedules will be made as necessary according to permit requirements.

PLAN DEVELOPMENT AND REVIEW

As stated previously, the SWMP was developed by and will be carried out by a joint effort of various City departments. It is expected that the following City departments will be involved in the implementation, tracking, enforcement, and assessment of the SWMP:

- Public Services
- Community Development
- Parks and Leisure Services
- City Management
- Information Technology

Meetings with City staff on the storm water management program actually began in 2001 when a timeline for updating city storm water maps was being discussed. Within the next few months, several meetings took place with Geographic Information Systems (GIS) staff in the Information Technology Services Division to determine funding sources and specific data layers needed on the maps. In mid-2002, meetings began with Community Development, Public Works, and Utilities to go over detailed checklists of information needs to develop the SWMP document. Additionally, regular meetings between Utilities staff responsible for SWMP development and regional groups such as the Elm Fork Watershed Roundtable, North Central Texas Council of Governments Regional Storm Water Management Coordinating Council, and the Storm Water Public Education Task Force took place during 2002. The purpose of those meetings was the development of a regional menu of BMPs to assist Phase II cities in plan development. Final review by City departments and City Management took place in March and April of 2003.

ASSESSMENT OF NON-STORM WATER DISCHARGES

In accordance with the requirements of the General Permit, the following non-storm water discharges were discussed by staff to ascertain if any known significant water quality impacts were created as a result of the discharges. There is no knowledge of adverse impacts to storm water quality within city limits from these listed discharges:

- Water line flushing
- Runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation utilizing potable water, groundwater, or surface water sources
- Discharges from potable water sources
- Diverted stream flows
- Rising ground waters and streams
- Uncontaminated groundwater infiltration
- Uncontaminated pumped groundwater
- Foundation and footing drains
- Air conditioning condensate
- Water from crawl space pumps
- Individual residential vehicle washing

- Flows from wetlands and riparian areas
- Dechlorinated swimming pool discharges
- Pavement and exterior building washing conducted without the use of detergents or other chemicals
- Discharges or flows from emergency fire fighting activities

PART III

MINIMUM CONTROL MEASURES

MCM 1: PUBLIC EDUCATION AND OUTREACH

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.

Current Programs

The City of Lewisville provides public education to the residential and business community through printed materials, cable programming, and website information. The Utilities Section provides printed brochures and other fact sheets on a routine basis concerning water and sewer issues, and required water quality reports are mailed to all water accounts once per year. Conservation and pollution prevention materials are made available at various City facilities and at satellite locations such as kiosks in the local mall and grocery stores. Pollution prevention materials are distributed at all pre-construction meetings held by the Engineering Division, and developers and contractors receive printed information from the Building Inspection Division during the permitting process to provide guidance on erosion and sediment control on construction sites.

The City partners in several environmental education endeavors with Keep Lewisville Beautiful (KLB), a local 501(c)(3) nonprofit organization, whose mission focuses on environmental education. During volunteer cleanups and adopt-a-spot registrations, KLB provides educational materials to participants. KLB also makes regular presentations at local schools and to local civic organizations to promote environmental awareness.

The Utilities Section administrative staff will work with the Department of Community Relations and Tourism, Department of Community Development, and Keep Lewisville Beautiful to develop and distribute public information.

Best Management Practices

BMP 1.1: Storm Water Information on City Cable Channel, Website, and Utility Bill Inserts

The City has a dedicated local cable channel, which includes scrolling announcements in addition to scheduled programming on activities of City departments and other topics of interest to residents. The channel is currently used to post announcements about environmental

programs, and can be used to post pollution prevention messages. Also, the City website contains web pages specific to environmental programs. The web pages will be expanded to provide storm water pollution prevention information and updated, as needed. Water bill inserts are currently used to get information out to the community on many special events and environmental and health concerns. The City will distribute storm water fact sheets to the public via the water bill as well.

BMP 1.2 Environmental Brochures on Storm Water Topics

The City's Environmental Programs Office will acquire or develop printed materials that identify the impacts of polluted storm water and the hazards of illegal discharge/illegal dumping for general distribution at various fixed locations and at special events. Printed materials will also be distributed to residents and the business, industrial and commercial communities as part of the Illicit Discharge Detection and Elimination Minimum Control Measure.

BMP 1.3 Storm Drain Marking Program

The City began a storm drain marking program in 2002 using volunteers. The plan is to continue purchasing the plastic markers with the "Drains to Creek" message until all inlets are marked. Public Works and Utilities staff will participate in installing markers when volunteers cannot be used. Door hangers with storm water pollution prevention messages will be distributed in the areas where the markers are being installed.

BMP 1.4 Smartscape Program Promotion

Lewisville participates in a regional program developed by North Central Texas Council of Governments (NCTCOG) and member cities called Texas Smartscape. A task force created a landscaping program CD that promotes the use of native and adapted plants that is successful in the North Texas area. The Smartscape concepts also promote using plants that require less water, fertilizers, and pesticides with the result of protecting and conserving the local water resources. Since 2001, over 110,000 copies of the CD have been distributed by at least 30 area cities, and in 2003 the Texas Smartscape program was made available online through the NCTCOG. The Environmental Programs Office of the Utilities Section handles this promotion, and has expanded the program to include public information pieces and/or classes on composting, water conservation practices in landscaping, and other landscaping topics.

BMP 1.5 Storm Water Information for the Development Community

The Engineering and Building Inspections Divisions currently make all of their requirements available to the community online and in hard copy format. In addition to the information that is available to the construction/development community through the GDO, printed materials on pollution prevention and storm water best management practices at construction sites are made available at the Engineering and Building Inspections offices. The Department of Community Development and the Utilities Administration staff will be responsible for these projects.

BMP 1.6 Employee Training

As a component of the municipal good housekeeping/pollution prevention measure of Lewisville's SWMP, the City will provide training on pollution prevention practices to all employees working in operations that are identified as possibly impacting storm water runoff. Employees will receive information through the employee newsletter, email, and storm water training programs on a regular and continuing basis. The City participates in the NCTCOG regional storm water initiatives that include training modules for employees on pollution prevention at City facilities. The Utilities Section will seek funding for this training in its annual budget for storm water programs.

BMP 1.7 Storm Water Hotline

The City currently accepts inquiries and citizen complaints through the Public Services office and the Citizens Response Center. The Department of Public Services currently has a dedicated phone line for emergencies to accommodate citizen reporting. The number is advertised through the City water bills, cable channel, website, and storm water publications. New initiatives will be created to promote the reporting of storm water issues and illicit discharges.

PUBLIC EDUCATION AND OUTREACH

Best Management Practice	Planned Activities	Year Initiated	Measurable Goals
<u>BMP 1.1</u> Storm Water Information on City Cable Channel, Website, and Utility Bill Inserts	Information about the storm water hotline, pollution prevention practices, and water quality will be posted on the City website, City cable channel and included in utility bill inserts.	Year 2	The existing storm water webpage will be expanded and maintained with relevant content.
		Year 3	Scrolling messages will be added to broadcasts on the cable channel.
		Year 3	Pollution prevention information will be included in water bills twice per year.
<u>BMP 1.2</u> Environmental Brochures on Storm Water Topics	Brochures and other pollution prevention printed materials will be distributed to various locations.	Year 3	The brochures and other materials will be made available at City Hall, the Public Library, the Keep Lewisville Beautiful office, the Visitor's Center and mall kiosks. These materials will also be distributed at special events at least two times per year. Printed materials will be distributed to residents and the business, industrial and commercial communities as part of MCM 3.
<u>BMP 1.3</u> Storm Drain Marking Program	Storm drains will be marked with "Drains to Creek" message using volunteers and Public Services employees.	Year 2	Markers will be placed on a minimum of 250 inlets per year.
	Door hangers will be placed in all areas where drain markers are installed.	Year 2	Door hangers will be placed on all single-family residences and at management offices for multi-family residences in areas where storm drain markers are installed
<u>BMP 1.4</u> Smartscape Program Promotion	Promote the online Smartscape program, and other environmentally sensitive landscaping and gardening programs.	Year 2	A link will be provided on the storm water webpage to Smartscape Online.
		Year 1	The Environmental Programs Office will continue to provide Smartscape and related training sessions as time and budget allow.
<u>BMP 1.5</u> Storm Water Information for the Development Community	Promote local storm water pollution prevention training opportunities.	Year 3	Contractors and developers working in the City of Lewisville will be notified, by mail, of the availability of storm water related workshop(s).
	Create pollution prevention materials for the development community.	Year 1	The City has developed a brochure on Storm Water Pollution Prevention Practices during construction. Additional materials will be developed as needed.
	Provide the pollution prevention materials to contactors and developers.	Year 1	The pollution prevention materials are currently available to developers and contactors at the Engineering and Building Inspections offices and distributed at pre-construction meetings.
	Update pollution prevention materials.	Year 1	The pollution prevention materials, which are distributed to developers and contractors, will be updated as needed.

<u>BMP 1.6</u> Employee Training	Develop a City employee training program.	Year 3	The City will develop or acquire employee training materials and establish a training schedule for affected employees. General information on storm water impacts from City operations will be made available to all City employees.
	Require storm water construction inspectors to attend a course on inspection of storm water pollution prevention practices at construction sites.	Year 1	All City employees who conduct site inspections related to storm water will attend training on the inspection of pollution prevention practices during construction. All existing Storm Water Division inspectors will attend by Year 1. All existing inspectors within other City departments will attend by Year 2. New inspectors will attend as needed throughout the permit term. Inspectors will attend additional courses as they are made available, and as budget allows.
<u>BMP 1.7</u> Storm Water Hotline	Increase awareness of emergency hotline.	Year 3	An emergency phone line and recordkeeping system for reporting illegal dumping, complaints, or general comments on emergency issues currently exists. Complaints and inquiries are currently accepted through the Department of Public Services switchboard, and the web-based Response Center. Public Awareness of this number for the reporting of storm water issues and illicit discharges will be increased.
	Advertise the storm water hotline number.	Year 3	Advertisements will be distributed through water bills, the cable channel, the storm water webpage and other storm water materials.

MCM 2: PUBLIC PARTICIPATION AND INVOLVEMENT

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.

Current Programs

Beginning in 2002, the City started a storm drain marker program that has used volunteers in the community to install markers on the storm drain inlets. Additionally, the City partners with Keep Lewisville Beautiful every year to involve residents and the business community in citywide waterway cleanups. The City hosts a minimum of twelve household hazardous waste collection events for residents each year. Lewisville will continue to involve the community in programs that promote a clean city and safe water resources.

Best Management Practices

BMP 2.1 Comply with State and Local Public Notice Requirements

The City will comply with all public notice requirements of the MS4 permit, including publishing notice of the executive director's preliminary determination on the NOI and SWMP. The Department of Public Services will work with the Community Relations Manager and the City Attorney to see that this requirement is fulfilled.

BMP 2.2 Volunteer Opportunities

The City will publicize and provide opportunities for public involvement in pollution prevention programs in general and storm water pollution prevention programs specifically. These opportunities will be for participation in citywide cleanups held each year, Adopt-A-Spot, Clean Stream Teams, Smartscaping, and other programs as they are identified.

BMP 2.3 Household Hazardous Waste Collection Program

The City has provided household hazardous waste (HHW) collections to Lewisville residents since 1999 and now has a permanent collection center open one Saturday per month. This program allows residents to take an active role in reducing the amount of household pollution that is contributed to the environment. Additionally, alternatives for small quantity generators who are not eligible for the HHW program are being investigated through discussions with the TCEQ and regional agencies. The Environmental Programs Office will be responsible for these tasks.

BMP 2.4 Storm Drain Marking Program

The City began a storm drain marking program in 2002 using volunteers. The plan is to continue purchasing the plastic markers with the “Drains to Creek” message until all inlets are marked. Public Works and Utilities staff will participate in installing markers when volunteers cannot be used. Door hangers with storm water pollution prevention messages will be distributed in the areas where the markers are being installed.

BMP 2.5 Storm Water Hotline

See **Public Education and Outreach** MCM, BMP 1.7 for specific program details.

PUBLIC PARTICIPATION AND INVOLVEMENT

Best Management Practice	Planned Activities	Year Initiated	Measurable Goals
<u>BMP 2.1</u> Comply With State and Local Public Notice Requirements	Make the SWMP available to the Public for viewing	Year 1	A copy of the SWMP will be maintained at Public Services Administration and the Public Library. A notice of the executive director's preliminary determination on the NOI and SWMP will be published after the City receives written instructions from the TCEQ's Office of Chief Clerk.
	Make the City of Lewisville SWMP available for public comment.	Year 2	The Storm Water Management Plan (SWMP) will be available at Public Services Administration and the Public Library and posted on the City Website for input. All comments that are received will be documented and responded to.
<u>BMP 2.2</u> Volunteer Opportunities	Acquire volunteers for annual City cleanup events.	Year 1	The City will advertise and seek volunteers for the annual cleanup events. The City will attempt to enlist volunteers from the residential and business communities.
	Promote the Keep Lewisville Beautiful Adopt-A-Spot and Clean Stream Team Programs.	Year 1	The City will promote the Keep Lewisville Beautiful Adopt-A-Spot/Clean Stream Team Programs and identify areas near creeks, Lewisville Lake, and the Elm Fork of the Trinity River that can be adopted.
<u>BMP 2.3</u> Household Hazardous Waste Collection Program	Household hazardous waste collection events	Year 1	The Residential Convenience Center is currently set up to accept household hazardous waste once per month.
	Hazardous waste disposal options for commercial users	Year 3	Disposal alternatives for small quantity generators will be investigated. The list of disposal options will be maintained in printed form and on the City website.
<u>BMP 2.4</u> Storm Drain Marking Program	Storm drains will be marked with "Drains to Creek" message using volunteers and Public Services employees.	Year 2	Markers will be placed on a minimum of 250 inlets per year.
	Door hangers will be placed in all areas where drain markers are installed.	Year 2	Door hangers will be placed on all single-family residences and at management offices for multi-family residences in areas where storm drain markers are installed
<u>BMP 2.5</u> Storm Water Hotline	See Public Education and Outreach MCM, BMP 1.7 for specific program details		

MCM 3: ILLICIT DISCHARGE DETECTION AND ELIMINATION

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 map showing the location of all outfalls and the names and locations of all waters 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 employee, 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 the MS4.

Current Programs

The City of Lewisville's Information Technology Section is currently updating its storm sewer mapping system as a component of general infrastructure mapping updates. There currently is no storm water management ordinance in place. However, an ordinance has been drafted, and once it is reviewed and approved by all affected departments, it will be sent to City Council for acceptance. Additionally, the current Industrial Waste/Pretreatment and Pollution Control Ordinance allows both Storm Water and Environmental Control Services (ECS) Inspectors to identify and investigate unusual conditions that may present themselves during the inspections conducted under the authority of that ordinance. Some other groups of public employees such as Utility Line Maintenance employees, Street Maintenance employees, and Fire Department personnel may have general knowledge of illicit discharge or illegal dumping hazards to the extent that those personnel know when to notify ECS to dispatch an inspector. ECS Inspectors and Storm Water Inspectors oversee the cleanup of unauthorized discharges and spills to protect the quality of water in our creeks and streams.

Best Management Practices

BMP 3.1 Storm Sewer System Map

Lewisville is currently developing a GIS-based storm sewer system map showing the locations of all outfalls and the names and locations of all waters of the U.S. that receive discharges from those outfalls. The map will be completed through the combined efforts of the GIS Administrator for input of data and production of maps, and Storm Water Inspectors for field verifications as needed. The administrative staff of the Utilities Section will coordinate funding for the mapping updates.

BMP 3.2 Storm Water Management Ordinance

The City of Lewisville has developed a draft ordinance to prohibit non-storm water discharges into surface waters and the storm sewer system. Appropriate enforcement procedures and actions will be identified, through the development of an Enforcement Response Plan, in accordance with the ordinance.

BMP 3.3 Dry Weather Screening

Storm Water personnel will conduct visual dry weather screening of all the City's storm water outfalls. The current Storm Water inspectors attended a dry weather screening training workshop hosted by the North Central Texas Council of Governments (NCTCOG) in 2007. Screening procedures will be developed to prepare personnel to carry out this task in accordance with an established inspection schedule. Field screening equipment will be purchased as budget allows.

BMP 3.4 Wet Weather Monitoring

Storm Water personnel will conduct wet weather monitoring to chart storm water runoff quality in specific areas of the City. Portable sampling equipment has been purchased, and the construction of permanent sampling sites is planned for 2008/2009. The sampling equipment will be set up at these sampling sites to collect representative samples during rain events.

BMP 3.5 Illicit Discharge Inspections

Storm Water personnel will conduct inspections to discover the source of illicit connections and illegal dumping activities. These inspections will be based on the results of the dry weather screening and wet weather monitoring. Environmental Control Services personnel may assist in the inspection of commercial and industrial businesses. All allowable non-storm water discharges will be exempt from enforcement actions except in situations where the allowable discharge mixes with a non-allowable discharge, or if the discharge has been determined by the MS4 Operator, State or Federal agency to be a significant source of pollutants.

BMP 3.6 Spill Response Plan

Spill response procedures have been established for some time, but the procedures need to be committed to a more formal plan. These procedures will be reviewed and put into a document format by Public Services personnel.

BMP 3.7 Public Education/Information Program on Illegal Discharges and Improper Disposal Practices

As part of the public education component of the Storm Water Management Plan, information will be distributed to public employees, residents, visitors and the business community for the purpose of educating them about the hazards of illegal discharges and improper disposal practices. This information will be distributed through the employee newsletter with the

assistance of the Department of Human Resources and the Department of Community Relations and Tourism. Materials for residents, visitors and businesses will be made available in printed format and on the City website as well. Materials will be developed or acquired by the Utilities Administration staff. The City of Lewisville is a member city of the North Central Texas Council of Governments' Regional Storm Water Management Program, and will participate in numerous regional educational campaigns on storm water pollution prevention.

BMP 3.8 Household Hazardous Waste Collection Program

The City has provided household hazardous waste (HHW) collections to Lewisville residents since 1999 and now has a permanent collection center open one Saturday per month. This program provides residents with an alternative to dumping these household products in the municipal landfill or otherwise improperly disposing of them. Additionally, alternatives for small quantity generators who are not eligible for the HHW program are being investigated through discussions with the TCEQ and regional agencies. The Environmental Programs Office will be responsible for these tasks.

BMP 3.9 Storm Water Hotline

See **Public Education and Outreach** MCM, BMP 1.7 for specific program details.

ILLICIT DISCHARGE DETECTION AND ELIMINATION

Best Management Practice	Planned Activities	Year Initiated	Measurable Goals
<u>BMP 3.1</u> Storm Sewer System Map	Update the Storm Sewer Map	Year 2	The GIS Department and Storm Water inspectors will coordinate to begin completing the update of the Storm Sewer Map.
	Verify outfall and inlet locations and conditions.	Year 3	City staff will begin conducting visual verifications of all identified outfalls and inlets. Inspection forms and standard operating procedures will be developed.
	Develop a plan for keeping the storm sewer map updated as new development occurs.	Year 3	The Utilities Section will coordinate with the Engineering and GIS Divisions to develop a long term plan for keeping the map updated, and the associated costs will be identified.
	Maintain updated sewer map	Year 3	The storm sewer map will be updated according to the plan.
<u>BMP 3.2</u> Storm Water Ordinance	Develop a Storm Water Ordinance to meet the needs of the Storm Water Management Plan	Year 2	A draft Storm Water Ordinance has been developed, and will be evaluated to ensure it meets the requirements of the SWMP. The final version will be submitted to City Council for approval.
	Resources and training to implement the Storm Water Ordinance requirements.	Year 3	Resources will be acquired as needed and as budget constraints allow. Storm Water personnel have already attended numerous training opportunities, such as construction site inspections, dry weather screening, and hazardous materials/emergency response.
	Implement the Storm Water Ordinance requirements	Year 3	Once approved by the City Council, the Storm Water Ordinance will go into effect. Appropriate education and/or enforcement actions will be taken to cease all identified violations of the Storm Water Ordinance.
<u>BMP 3.3</u> Dry Weather Screening	Identify outfalls within the City.	Year 3	City personnel will begin to identify all City outfalls that discharge to surface waters, such as Lewisville Lake and the Trinity River.
	Develop Dry Weather Screening Procedures.	Year 3	Procedures to identify illicit discharges through dry weather screening will be developed.
	Train responsible personnel	Year 3	The current Storm Water inspectors attended training provided by the NCTCOG in July, 2007.
	Conduct the Dry Weather Screening Program	Year 4	Outfalls within the City will be screened according to the established inspection schedule.

BMP 3.4 Wet Weather Monitoring	Identify major outfalls	Year 2	Major outfalls (creeks and streams) that discharge into the Trinity River or Lake Lewisville will be identified for wet weather monitoring.
	Determine monitoring parameters	Year 2	The parameters used to determine water quality during wet weather screening will be determined.
	Train responsible personnel	Year 2	All personnel responsible for conducting wet weather monitoring will be trained according to the procedures.
	Conduct the Wet Weather Monitoring program	Year 3	Wet weather monitoring will be conducted on each identified major outfall once each quarter, provided that a rainfall event has occurred.
BMP 3.5 Illicit Discharge Inspections	Standard inspection procedures and training	Year 3	Standard inspection procedures will be developed for conducting illicit discharge inspections and the appropriate personnel will be trained according to the procedures.
	Suspected illicit discharge site inspections	Year 4	All suspected sites that are reported by residents or City employees, or discovered through the Dry Weather Screening or Wet Weather Monitoring programs will be investigated.
BMP 3.6 Spill Response Plan	Review of Spill Response Procedures	Year 3	The 1998 Spill Response Procedures will be reviewed and any necessary revisions and additions will be made.
	Spill response plan training and implementation	Year 3	Non-emergency personnel responsible for responding to hazardous spills (ECS and Storm Water) will receive training for the Spill Response Plan. All current personnel have attended 40 hours of HAZWOPER training and annual 8-hour refresher courses.
BMP 3.7 Illicit Discharge Public Education Program	Development of public education materials	Year 3	Public education written materials and media presentations for use with public employees, residents, and the business community will be developed or acquired.
	Distribution of educational materials	Year 3	Materials will be distributed to City employees through the City training program and employee newsletter. Materials will be distributed to residents and the business, industrial and commercial communities to reach at least 25% of households per year.
BMP 3.8 Household Hazardous Waste Collection Program	Household hazardous waste collection events	Year 1	The Residential Convenience Center is currently set up to accept household hazardous waste once per month.
	Hazardous waste disposal options for commercial users	Year 3	Disposal alternatives for small quantity generators will be investigated. The list of disposal options will be maintained in printed form and on the City website.
BMP 3.9 Storm Water Hotline	See Public Education and Outreach MCM, BMP 1.7 for specific program details		

MCM 4: CONSTRUCTION SITE STORM WATER CONTROLS

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) an ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance; 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; and procedures for receipt and consideration of information submitted by the public.

Current Programs

The City has a very thorough General Development Ordinance (GDO) in place to provide for development within the city that promotes the health, safety and general welfare of the community. The GDO addresses erosion and sediment control on construction sites and makes provisions for stop-work orders and enforcement for violations of City requirements. The erosion and sediment controls identified in the GDO were included for their impact on water quantity on disturbed land. Therefore, there will need to be some revision of the GDO language so the water quality issues are specifically addressed. Additionally, the City's drainage criteria will be updated to reflect water quality issues. The City of Lewisville is participating in the development of a regional drainage criteria manual through the North Central Texas Council of Governments (NCTCOG) that will incorporate consideration of water quality impacts of construction activities. The Storm Water Ordinance will include appropriate requirements for controlling waste on construction sites.

The development process in Lewisville requires submittal of plans to the Department of Community Development for site plan review by Engineering, Zoning and Building Inspections personnel as well as other departments as the particular project may dictate. With the inclusion of the water quality impacts in the GDO, the site plan review process will be adjusted to ensure compliance with the GDO and federal and state water quality regulations. The City has also been preparing construction inspection personnel for storm water initiatives by having them attend classes on Storm Water Pollution Prevention Practices for construction activities.

Best Management Practices

BMP 4.1 Ordinance to Address Erosion and Sediment Control

The existing ordinance and sediment controls included in the General Development Ordinance (GDO) will be reviewed for any necessary revisions based on water quality issues. The GDO will also be reviewed to ensure that local requirements support compliance with TPDES construction permit requirements. The Department of Community Development will conduct

this review and update the GDO with assistance from the Department of Public Services. The separate storm water ordinance will also address erosion and sediment control and other pollution prevention.

BMP 4.2 Develop Appropriate Inspection Procedures for All Construction Sites Having the Potential to Contribute to Storm Water Pollution

The Storm Water Division, with assistance from the Engineering and Building Inspections Divisions will conduct the storm water/erosion control inspections. The Engineering Division currently notifies the Storm Water Division of new construction projects and with assistance from the Storm Water Division, the Building Inspections Division will develop a system for identifying applicable construction activities and notifying the Storm Water Division. The Engineering and Building inspectors will conduct a basic erosion control inspection, as erosion control is currently enforced through the General Development Ordinance. Erosion control deficiencies will be documented, addressed with site personnel and forwarded to the Storm Water Division for follow-up. The Storm Water Division inspectors will conduct a comprehensive inspection encompassing erosion control as well as other aspects of pollution prevention and recordkeeping, which will be enforced in the Storm Water Ordinance. Each department/division will be responsible for developing its own information tracking system. The Storm Water Division has established an inspection schedule and currently inspects all active private projects at least once every 30 days and all active City projects (disturbing one or more acres) once every 7 days. The Storm Water Division will establish a system for evaluating and assigning inspection frequencies based on probable impacts to water quality. Each involved department will update procedures for recordkeeping of inspections and enforcement actions as needed. The Storm Water Division, in most instances, will initiate enforcement actions, but in cases where compliance cannot be solicited through measures such as notices of violation and citations or where there is an imminent threat to public health and safety or the environment that requires immediate attention, the Department of Community Development will be depended on for measures such as stop work orders and permit suspension. The Department of Community Development and Department of Public Services staff will be responsible for these activities. The Public Works Section of the Department of Public Services also administers smaller street/sidewalk maintenance and drainage projects that could potentially impact water quality. These activities will be monitored by the Department of Public Services.

BMP 4.3 Storm Water Hotline

See **Public Education and Outreach** MCM, BMP 1.7 for specific program details.

BMP 4.4 Storm Water Information for the Development Community

The Engineering and Building Inspections Divisions currently make all of their requirements available to the community online and in hard copy format. In addition to the information that will be available to the construction and development community through the GDO, printed materials on storm water best management practices at construction sites has been made available at the Engineering and Building Inspections office. A representative from the Storm Water Division is present at the majority of preconstruction meetings to distribute literature and

obtain project specific information. At that time, the erosion control map is reviewed and developers and contractors are made aware of their pollution prevention responsibilities. Contractors and Developers working in Lewisville will be notified of local pollution prevention training opportunities as they become available. Storm Water pollution prevention information will also be provided to the contractors who conduct the street/sidewalk maintenance and drainage projects for the Public Works Section. The Department of Community Development and Department of Public Services will be responsible for these projects.

BMP 4.5 Review Existing Drainage Criteria and Standards

Current ordinances and procedures will be re-evaluated to ensure that adequate consideration is given to post-construction runoff and water quality issues. Where possible, the City will require development project design elements that prevent or reduce the generation of storm water runoff and pollutants at the source.

CONSTRUCTION SITE STORM WATER CONTROLS

Best Management Practice	Planned Activities	Year Initiated	Measurable Goals
<u>BMP 4.1</u> Ordinance to Address Storm Water Pollution Prevention	Develop a Storm Water Ordinance.	Year 2	A draft Storm Water Ordinance has been developed that establishes pollution prevention requirements for activities occurring at construction sites.
	Implementation of the Storm Water Ordinance.	Year 3	When finalized, the Storm Water Ordinance will be presented to City Council and all of the requirements will be implemented and enforced, once approved.
<u>BMP 4.2</u> Develop Appropriate Inspection Procedures for All Construction Sites Having the Potential to Contribute to Storm Water Pollution	Storm water inspector training	Year 1	All City employees who conduct site inspections related to storm water will attend training on the inspection of pollution prevention practices during construction. All existing Storm Water Division inspectors have attended an inspector workshop hosted by the NCTCOG. All existing inspectors within other City departments will attend by Year 2. New inspectors will attend as needed throughout the permit term. Inspectors will attend additional courses as they are made available, and as budget allows.
	Development of storm water inspection forms	Year 1	Inspection forms have been developed and are currently in use by the Storm Water Division. Other departments responsible for conducting inspections will develop their own inspection documents by Year 2.
	Establish a schedule of inspection frequencies.	Year 1	The Storm Water Division currently inspects active City projects every 7 days and active private projects at least once every 30 days. In Year 2, the Storm Water Division will begin developing a system to assign inspection frequencies based on probable impacts on water quality. Other departments involved in inspections will develop their own schedule by Year 2.
	Evaluate and refine, if needed, the existing inspection recordkeeping system.	Year 1	The Storm Water Division currently has procedures in place for construction site inspections, as well as a system to maintain records of all inspection activities. These records are currently maintained in digital and hard copy format. Other involved departments will evaluate/refine their own inspection procedures and recordkeeping systems by Year 2.
	Implement inspection and recordkeeping system.	Year 1	The Storm Water Division currently keeps records of inspection reports, communication records, photos, NOI, NOT and Construction Site Notices, and enforcement actions. Other involved departments will implement their own recordkeeping systems by Year 2.

<p><u>BMP 4.3</u> Storm Water Hotline</p>	<p>See Public Education and Outreach MCM, BMP 1.7 for specific program details</p>		
<p><u>BMP 4.4</u> Storm Water Information for the Development Community</p>	<p>Promote local storm water pollution prevention training opportunities.</p>	<p>Year 3</p>	<p>Contractors and developers working in the City of Lewisville will be notified, by mail, of the availability of storm water related workshop(s).</p>
	<p>Create pollution prevention materials for the development community.</p>	<p>Year 1</p>	<p>The City has developed a brochure on Storm Water Pollution Prevention Practices during construction. Additional materials will be developed as needed.</p>
	<p>Provide the fact sheets or brochures to contactors and developers.</p>	<p>Year 1</p>	<p>The pollution prevention materials are currently available to developers and contactors at the Engineering and Building Inspections offices. Materials are also distributed during preconstruction meetings, at which time the functions and expectations of the Storm Water Division are made clear. Materials will also be distributed to contractors working for the Public Works Section.</p>
	<p>Post storm water information on the City website</p>	<p>Year 2</p>	<p>The City currently has a small storm water page on its website. Updated content for this page has been developed, and once the update is approved, it will be added to the webpage. Storm water best management practices will be included on the storm water webpage. This will be accomplished by providing a link to the North Central Texas Council of Governments (NCTCOG) Design Manual for Construction. If the NCTCOG ceases to provide online access to the manual, it will be posted directly on the City website. This information will be maintained on the City website throughout the permit term.</p>
<p><u>BMP 4.5</u> Review Existing Drainage Criteria and Standards</p>	<p>Evaluate current Drainage Criteria Manual</p>	<p>Year 3</p>	<p>The current Drainage Criteria Manual will be reviewed to determine the effectiveness in addressing post construction storm water runoff.</p>
	<p>Adopt the NCTCOG Design Manual for Site Development</p>	<p>Year 3</p>	<p>The NCTCOG Design Manual for Site Development will be adopted, in whole or in part, as determined to be appropriate with the completion of the manual.</p>

MCM 5: POST CONSTRUCTION STORM WATER MANAGEMENT FOR NEW DEVELOPMENT AND REDEVELOPMENT

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 discharges into your MS4. Develop and implement strategies, which include a combination of structural and nonstructural 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.

Current Programs

The Planning and Zoning Commission regulates development in the City of Lewisville. The Commission has oversight on all development activity for consistency with the Comprehensive Development Plan and zoning requirements. The City has a Drainage Criteria Manual in place to address drainage issues, but the City has also participated in the funding of a regional program with NCTCOG to develop a regional drainage criteria manual that addresses water quality issues in addition to the water quantity issues already included in most cities' drainage manuals. Engineering review of all site plans is a regular part of the City's development process to ensure that structural controls are included in site development where needed for water quantity management. The General Development Ordinance has provisions for sediment and erosion control compliance and enforcement. Each development project's Engineering Site Plan must include an Erosion Control Plan, which identifies all structural controls. A Storm Water Division representative attends most preconstruction meetings and discusses the expectations of the City, including structural and non-structural controls, inspections, recordkeeping, and general pollution prevention. The current development review process and the Planning and Zoning Commission consistency review process will support the implementation of best management practices by the City that protect water quality. The Department of Community Development will continue to be responsible for these activities.

Best Management Practices

BMP 5.1 Review Existing Drainage Criteria and Standards

Current ordinances and procedures will be re-evaluated to ensure that adequate consideration is given to post-construction runoff and water quality issues. Where possible, the City will require development project design elements that prevent or reduce the generation of storm water runoff and pollutants at the source.

BMP 5.2 Storm Sewer System Maintenance Program

The Department of Public Services Streets Division employees currently perform maintenance of the storm sewer system. This includes channel cleaning and mowing, inlet checks and cleaning,

creek channel cleaning, roadside ditching, pipe repairs, and erosion control. A contractor performs street sweeping with oversight by the Public Works Section. The maintenance program is hindered somewhat by manpower and funding limitations. After a plan for maintenance is developed and resources are evaluated, funding will be sought to implement a sustained maintenance program.

BMP 5.3 Storm Water Ordinance

A draft Storm Water Ordinance has been developed that addresses best management practices and pollution prevention during construction. The ordinance requirements will be extended to all development projects whether they are on previously undeveloped land or redeveloping an area that has been previously developed. Post construction runoff quality will be regulated through the storm water ordinance as well. Polluted runoff is currently prohibited by the Industrial Pretreatment and Pollution Control Ordinance which enforces the requirements of Chapter 26 of the Texas Water Code.

BMP 5.4 Post Construction Inspection Program

An inspection program, including inspection criteria, frequencies and duration, will be developed to monitor the long term pollution prevention effectiveness of BMPs installed by operators of previously completed construction projects. The draft storm water ordinance provides the necessary compliance elements needed to enforce pollution prevention requirements on home and business owners who assume responsibility of property after the construction activity has been completed.

**POST CONSTRUCTION STORM WATER MANAGEMENT FOR NEW DEVELOPMENT
AND REDEVELOPMENT**

Best Management Practices	Planned Activities	Year Initiated	Measurable Goals
<p align="center"><u>BMP 5.1</u> Review Existing Drainage Criteria and Standards</p>	Evaluate current Drainage Criteria Manual	Year 3	The current Drainage Criteria Manual will be reviewed to determine the effectiveness in addressing post construction storm water runoff.
	Adopt the NCTCOG Design Manual for Site Development	Year 3	The NCTCOG Design Manual for Site Development will be adopted, in whole or in part, as determined to be appropriate with the completion of the manual.
<p align="center"><u>BMP 5.2</u> Storm Sewer System Maintenance Program</p>	Create an inventory of BMPs	Year 3	An inventory of structural BMPs and the storm sewer infrastructure within the City limits will be created.
	Develop a recordkeeping system and schedule of activities	Year 3	A schedule and recordkeeping system will be developed for conducting visual inspections and regular maintenance of the storm sewer system and other storm water conveyances.
	Evaluate costs and seek program funding.	Year 4	The Public Works Section will evaluate the costs and budget impacts of the storm sewer maintenance program and develop a budget package to request funds needed to implement the program
	Implement the maintenance program.	Year 5	Storm sewer inlets, outlets and other storm sewer conveyances will be cleaned and maintained on a regular basis according to the program schedule. The street sweeping program will be continued, and may be modified as needed.
<p align="center"><u>BMP 5.3</u> Ordinance to Address Post Construction Runoff from Development and Redevelopment Projects</p>	Develop a Storm Water Ordinance.	Year 2	A draft Storm Water Ordinance has been developed that establishes pollution prevention controls for activities occurring at construction sites. Polluted storm water runoff, both during and post-construction, will be prohibited by the Storm Water Ordinance. Polluted storm water is currently prohibited by the Industrial Pretreatment and Pollution Control Ordinance which enforces the requirements of Chapter 26 of the Texas Water Code.
	Implementation of the Storm Water Ordinance.	Year 2	When finalized, the Storm Water Ordinance will be presented to City Council and all of the requirements will be implemented and enforced, once approved.

<u>BMP 5.4</u> Post Construction Inspection Program	Develop a post construction inspection program	Year 3	An inspection program, including inspection criteria, frequencies and duration, will be developed to monitor the long term pollution prevention effectiveness of BMPs installed by operators of previously completed construction projects.
	Implement the post construction inspection program	Year 3	The Storm Water Division will begin to monitor completed construction sites for pollution prevention compliance, and enforcement actions will be taken as necessary.

MCM 6: POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

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.

Current Programs

Municipal operations that fall under the good housekeeping and pollution prevention minimum control measure include park and open space maintenance, street maintenance, contract maintenance, utility line maintenance, fleet and building maintenance, storm sewer system maintenance, vehicle and equipment storage areas, water and wastewater treatment, and sand/salt storage locations. Park and open space maintenance is performed by the Department of Parks and Leisure Services. Water and Wastewater operations are part of the Utilities Section of the Department of Public Services, and all of the other areas identified fall under the charge of the Public Works Section of the Department of Public Services. All of these operations will be examined to ensure that City of Lewisville operations are minimizing the amounts of pollutants which contribute to storm water runoff. Responsible parties include the Department of Parks and Leisure Services and the Department of Public Services.

Best Management Practices

BMP 6.1 Develop Multi-department Pollution Prevention Team

The City of Lewisville will create a Pollution Prevention Team. Each department will select their own representatives with input from the Utilities administration staff. Once the team establishes its goals and objectives, it will assist in the development of policies and procedures for storm water pollution prevention.

BMP 6.2 Training to All Employees Responsible for Identified Municipal Operations

The City has an established and successful training program for employees, beginning with new employee orientation. Once an employee is hired, the department is responsible for seeing that training occurs to equip the employee with the information needed to perform his or her job well. Pollution prevention training will be handled in this way as well, and the City Pollution Prevention Team will work with all personnel to ensure that appropriate training is received, and that appropriate pollution prevention practices occur on an ongoing basis. The NCTCOG has developed a set of training modules addressing storm water pollution prevention for various municipal operations. These modules are currently in a Power Point format, but NCTCOG is considering converting them to a video format to make them easier to present.

BMP 6.3 Storm Sewer Maintenance Program

The Department of Public Services Streets Division employees currently perform maintenance of the storm sewer system. This includes channel cleaning and mowing, inlet checks and cleaning, creek channel cleaning, roadside ditching, pipe repairs, and erosion control. A contractor performs street sweeping with oversight by the Public Works Section. The maintenance program is hindered somewhat by manpower and funding limitations. After a plan for maintenance is developed and resources are evaluated, funding will be sought to implement a sustained maintenance program. The City has purchased the ASIST storm water tracking software, which will be used to track inspections of inlets, outfalls, and other structural BMPs.

BMP 6.4 Street Sweeping Program

The City currently contracts street sweeping through a private service. Main thoroughfares are swept four times per year and residential streets are covered twice per year. This program will continue to operate at this schedule and frequency, unless it is determined that it is not sufficient.

BMP 6.5 Waste Disposal Practices

The City generally handles waste in a way that prevents pollution at our facilities. Most departments have access to desk side recycling, but there are some disposal issues that will need to be addressed through renegotiations with the janitorial service provider. The Public Works Section has several programs in place to recycle usable materials such as asphalt and concrete, and storage of those materials will be re-evaluated to ensure there are no storm water runoff impacts. Additionally, procedures will be developed for proper management of all waste or reusable materials so that employees may receive training about these procedures.

BMP 6.6 Herbicide and Pesticide Management

Herbicides are used by the Department of Parks and Leisure Services to maintain open spaces and control vegetative growth in the storm sewer system natural channels. The products used meet EPA standards. This program will be re-evaluated to ensure that storm water impacts are minimized to the maximum extent practicable.

BMP 6.7 Fleet Maintenance Center Pollution Prevention

The Fleet Maintenance Division has procedures and structural features in place to prevent most pollution that might occur from such operations. City staff will review the facility and current practices to determine if any corrective action is needed.

BMP 6.8 Water and Wastewater Treatment Plant Pollution Prevention

The City of Lewisville Wastewater Treatment Plant (WWTP) has applied for, and been granted coverage under the TPDES Multi-Sector General Permit (TXR050000) for storm water runoff from industrial activities. The WWTP permit number is TXR05Q600. A Storm Water Pollution

Prevention Plan has been developed and implemented for the facility to ensure that no discharges are contaminating surface waters in the State.

The Water Treatment Plant is not a regulated activity under the TPDES Multi-Sector General Permit, but it is regulated under Federal Oil Pollution Prevention regulations due to its oil and oil products storage capacity. A Spill Prevention Control and Countermeasure (SPCC) plan has been developed and implemented at the Water Treatment Plant, and all satellite locations which have a regulated oil storage capacity.

POLLUTION PREVENTION AND GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

Best Management Practices	Planned Activities	Year Initiated	Measurable Goals
<u>BMP 6.1</u> Develop Multi-department Pollution Prevention Team	Create Pollution Prevention Team	Year 3	With input from other departments, personnel will be identified to participate in a Pollution Prevention Team.
	Develop Pollution Prevention Policies and Procedures	Year 3	The Pollution Prevention Team will lead City departments in developing policies and procedures to prevent on-site pollution and to prevent the discharge of pollutants off-site. Once the policies and procedures are developed the associated pollution prevention activities will be implemented.
<u>BMP 6.2</u> Training to All Employees Responsible for Identified Municipal Operations	Identify all City Departments engaging in activities which could potentially contribute to storm water pollution	Year 3	Departments/Divisions will identify their operations that have a potential impact on storm water quality and identify any corrective actions that are needed.
	Develop a City employee training program	Year 3	The City will obtain the NCTCOG training modules and establish a training schedule for affected employees. General information on storm water impacts from City operations will be made available to all City employees.
	Implement employee training program	Year 4	All affected employees will receive storm water awareness training. Documentation of the training will be created and maintained on file.
<u>BMP 6.3</u> Storm Sewer Maintenance Program	Create an inventory of structural BMPs	Year 3	An inventory of structural BMPs and the storm sewer infrastructure, within the City limits, will be created.
	Develop a recordkeeping system and schedule of activities	Year 3	Once the inventory is created, the ASIST software will be used to track visual inspections and regular maintenance of the storm sewer system and other storm water conveyances.
	Evaluate costs and seek program funding	Year 4	The Public Works Section will evaluate the costs and budget impacts of the storm sewer maintenance program and develop a budget package to request funds needed to implement the program.
	Implement the maintenance program	Year 5	Storm sewer inlets, outlets and other storm sewer conveyances will be cleaned and maintained on a regular basis according to the program schedule.

BMP 6.4 Street Sweeping Program	Evaluate the existing street sweeping program	Year 2	An evaluation of the current street sweeping program will be conducted by the Public Works Section. Any deficiencies with the program will be identified and corrections will be made.
	Develop street sweeping program to properly address good housekeeping minimum control measure and identify associated costs	Year 3	The street sweeping program will be modified, if necessary, to properly address the good housekeeping minimum control measure. If additional program funding is needed, a budget package will be developed to seek City Management's approval of the program.
	Implement the street sweeping program	Year 4	The existing street sweeping program will be continued, or a modified street sweeping program will be implemented and activities will occur according to the program schedule.
	Evaluate the effectiveness of the street sweeping program	Year 5	The effectiveness of the program will be evaluated and the program will be continued or modified based on findings.
BMP 6.5 Waste Disposal Practices	Identify the current waste disposal practices	Year 2	The current waste disposal practices used at all City Facilities will be identified and evaluated, and any deficiencies will be documented.
	Ensure that waste collection containers are properly sized and that recycling is available at all City facilities (where feasible)	Year 2	Properly sized containers will be provided at all locations and recycling containers will be provided, where feasible.
	Develop procedures and identify disposal options for storm sewer maintenance wastes	Year 3	Procedures and outside contracts will be developed, where needed, for the proper disposal of dredge spoil, accumulated sediments, floatables, and other debris from storm sewer system cleaning.
	Implement the waste management system	Year 4	The waste management program will be implemented and will effectively prohibit storm water pollution resulting from waste management practices. If pollution prevention is not achieved, the program will be modified.
BMP 6.6 Herbicide and Pesticide Management	Evaluate the current herbicide and pesticide use practices	Year 3	The current herbicide and pesticide use practices will be evaluated, by PALS and the Utilities Section, and any required corrective actions will be identified.
	Implement Herbicide and Pesticide management guidelines	Year 4	All City use of herbicides and pesticides will comply with the provisions of the management guidelines.

BMP 6.7 Fleet Maintenance Center Pollution Prevention	Fleet Maintenance Center evaluation	Year 3	The existing fleet maintenance center operations and infrastructure will be reviewed.
	Fleet Maintenance Center pollution prevention plan	Year 4	A plan will be developed that addresses pollution prevention in the fleet maintenance center.
	Implement the plan and any corrective actions needed	Year 4	The fleet maintenance center pollution prevention plan will be implemented and will effectively prohibit pollutants from entering the storm sewer system. If pollution prevention is not achieved, the program will be modified.
BMP 6.8 Water and Wastewater Treatment Plant Pollution Prevention	Maintain compliance with the requirements of the TPDES MSGP (Industrial Permit) and Federal Oil Pollution Prevention regulations	Year 1	All permit requirements related to the operation and maintenance of the Wastewater Treatment Plant will be met or exceeded. The Water Treatment Plant will comply with all requirements of its Spill Prevention Control and Countermeasure plan.

PART IV

Notice of Intent

TPDES General Permit #TXR040000