City of Springfield STORMWATER MANAGEMENT PLAN

Prepared by:
City of Springfield
Public Works Environmental Services Division

January, 2004- Updated November, 2008, Updated March 2010

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GLOSSARY OF TERMS AND ACRONYMS

ACWA	Association of Clean Water Agencies
BMP	Best Management Practice
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
CWA	Clean Water Act (Federal)
DEQ	Department of Environmental Quality (Oregon)
DWPP	Drinking Water Protection Plan (City of Springfield/Springfield Util. Board)
EQC	Environmental Quality Commission (Oregon)
EPA	U. S. Environmental Protection Agency
ESA	Endangered Species Act (Federal)
ESD	Environmental Services Division (Public Works Dept./City of Springfield)
FEMA	Federal Emergency Management Agency
LCDC	Land Conservation and Development Commission (Oregon)
MEP	Maximum Extent Practicable
Metro Plan	Eugene-Springfield Metropolitan Area General Plan
MS4	Municipal Separate Storm Sewer System
NOAA Fisheries	National Oceanic Atmospheric Administration Fisheries. Federal agency tasked with managing populations of anadromous fish, such as threatened salmon species.
NPDES	National Pollutant Discharge Elimination System - A program in the CWA that regulates and manages stormwater runoff from cities and industry.
OAR	Oregon Administrative Rule
PFSP	Eugene-Springfield Public Facilities and Services Plan
SDWA	Safe Drinking Water Act (Federal)
SMP or Storm-Plan	Stormwater Management Plan - A written guidance for managing Water stormwater runoff.
TMDL	Total Maximum Daily Load - A program included in the CWA that addresses water quality in waterways that do not meet minimum State water quality standards. A TMDL is the amount of any pollutant that can be assimilated into a water body while still meeting State standards.
UGB	Urban Growth Boundary
UIC	Underground Injection Control
USFWS	U. S. Fish and Wildlife Service

CHAPTER ONE

INTRODUCTION

Background and Context

The Springfield Stormwater Management Plan (Stormwater Plan) has been developed to provide policy and management guidance for activities affecting stormwater throughout the City of Springfield and its urbanizable area. It is intended to help the City fulfill certain State and Federal water quality requirements, and to meet local water resources management objectives. Through the implementation of the policies and management practices embodied in the Stormwater Plan over time, Springfield hopes to stem the decline of urban stormwater quality that negatively impacts local rivers and streams, and to develop and preserve the urban drainage infrastructure in a manner that meets the community's needs for years to come.

Springfield joins many small to medium-sized cities throughout the nation that fall under the Federal Clean Water Act (CWA) requirements to apply for and maintain a Municipal Separate Storm Sewer System (MS4) permit under the National Pollutant Discharge Elimination System (NPDES) program. Among the many provision of the State and Federal regulations guiding the issuance of the stormwater discharge permit is the overarching challenge that the City demonstrate its efforts to reduce pollution in urban stormwater "to the maximum extent practicable." The CWA joins the Endangered Species Act (ESA) and the Safe Drinking Water Act (SDWA) in protecting the "beneficial uses" of the nation's waters, including drinking, recreation, and fish/habitat uses.

Springfield lies south of the McKenzie River, and north and east of the Willamette River, approximately a mile south of their confluence. The area includes additional tributary streams, including the historic Springfield Mill Race and Cedar Creek, which are salmon bearing streams, various other open waterways, and a piped storm sewer system. While the State and Federal regulatory programs place significant emphasis on improving water quality and the health of Oregon's watersheds, Springfield's location between two major rivers further emphasizes the need for local management of urban stormwater and waterways. It becomes even more important that management of these resources occur in a manner that minimizes destructive long-term impacts to drainage infrastructure and the natural features that help protect water quality and control flooding.

In the past (pre-1990s), stormwater management practices focused on constructing new piped systems to send urban stormwater to the rivers as quickly as possible. This narrow emphasis on conveyance has changed over time with the recognition that traditional approaches led to deterioration of water quality, reduced the stormwater management

functions associated with natural drainageways, and furthered the loss of other values of open waterways and associated wetlands, riparian areas, and floodplains.

Over the past decade, Springfield's stormwater management practices have evolved to include efficient and cost-effective approaches that reduce or eliminate stormwater pollution and protect the riparian (stream bank) areas of open waterways. These approaches also provide natural pollutant removal and stormwater management capacity. However, the City has never before had a Stormwater Plan intended to provide comprehensive stormwater management guidance for the City organization. The City's old stormwater master plans, dating from the 1970s and early 1980s, are outdated, address only portions of the City's current jurisdiction, and only address system capacity.

Even with the limited application of the measures outlined above, water quality in the local rivers, streams and drainageways has declined and has become an issue of both community and regulatory concern. From a community standpoint, this decline has resulted in undesirable conditions in local waterways and stormwater drainage systems. These include objectionable odors, unsightly and unhealthy water quality, degraded and eroded riparian areas, and periodic flooding. Many waterways routinely fail to achieve minimum State water quality standards. Invasive plant and animal species are dominant in many areas, and the lack of community education and involvement in keeping debris and pollution out of waterways has led to increased ongoing maintenance requirements and Municipal Code enforcement activities.

The Springfield City Council began to review the state of the City's water resources and management capabilities in 1999 and 2000, along with the Federal and State regulatory programs, (such as the CWA, ESA, SDWA, and the Statewide Land Use Planning Goals and Guidelines) with which the City must comply. At that time, the City Council endorsed desired long-term outcomes that have served as a guide for the City's efforts to develop this Stormwater Plan and other related water resources management efforts. These long-term objectives have been reviewed with the City Council annually, and form the basis for the Goals, Policies and Implementation Actions that are the backbone of this first-ever Stormwater Management Plan. (See: City Council *Key Outcomes*, Appendix A).

Purpose, Scope and Areas of Focus

Purpose:

The purposes of the Stormwater Plan are threefold. First, the Stormwater Plan characterizes Springfield's entire stormwater drainage system, including both the open and piped systems, their connections to the rivers, and the overall condition of the system. This characterization is necessary to address relevant State and Federal regulatory requirements and it provides baseline information on which to develop focused stormwater management strategies.

Second, the Stormwater Plan establishes goals, policies, and implementation actions that will achieve the City Council's long-term objectives in a way that is understandable to the

public, usable by City staff, and meets regulatory needs. Finally, the Stormwater Plan establishes a means for measuring, reporting, and adaptively managing the City's water resources, by presenting benchmarks that will ensure meaningful progress toward City Council objectives, as well as ensuring compliance with applicable laws and permit requirements.

Scope and Areas of Focus:

The Stormwater Plan addresses stormwater quality management policies and management practices that are, and/or will be implemented in Springfield and its urbanizable area. However, the impacts of Springfield urban stormwater on lands and waterways outside the urban growth boundary (UGB) are also addressed in a limited manner. The scope of the Stormwater Plan is determined primarily by the Federal MS4 permit requirements, but is intended to address local water resources issues as well. These areas of focus in the Stormwater Plan include:

- **Pollution incidents and unlawful (illicit) discharges to the City's stormwater drainage system.** These discharges can be systematic (recurring) or episodic (occasional or one-time) discharges, and include pollutant runoff from parking lots, discharges from industrial outfalls, accidental spills, poor construction site management, and a variety of ways people dump pollutants into street gutters or catch basins. Pollutant discharges affecting urban drainage may occur inside the city, but may also occur in waterways upstream of the city limits. The City has jurisdiction to regulate these discharges within the city limits, and to a limited degree in the urbanizable area. The City anticipates increasing jurisdiction in the urbanizable area through cooperative agreements with Lane County. The Federal NPDES Stormwater Program requires the City to implement a program to detect and eliminate illicit pollutant discharges.

- **On-site management of stormwater to reduce the quantity of stormwater and pollution entering the drainage system.** Similar to illicit discharges, events that cause flooding, system surcharges, or ongoing pollutant loading can occur upstream or downstream from the city limits, and originate from a variety of causes. These include inadequacies in the type and design of infrastructure, inadequate maintenance, insufficient erosion and/or sediment control practices, and increases in impervious area without provision for on-site infiltration of stormwater into the ground. The City regulates these issues through implementation of the Springfield Development Code and Oregon Specialty Codes (Building Code) inside the city limits and urbanizable area and through the Municipal Code within the city limits. The Federal NPDES Stormwater Program requires the City to implement and enforce these codes to address the impacts of construction and other land disturbance on stormwater quality.

- **Reduction and prevention of pollution at City facilities and/or resulting from City activities and business practices.** The City both contracts for, and directly provides, services with a potential for creating water pollution, erosion, and sedimentation.

These include field activities such as ditch cleaning and excavation/maintenance activities, as well as activities at City facilities, such as vehicle washing and maintenance, painting, and material handling such as street sweeper dumping and processing. The Federal NPDES Stormwater Program requires the City to implement pollution prevention practices that reduce or eliminate stormwater pollution from City activities. Beyond this regulatory motivation, it is important that the City lead by example in areas where similar practices and behaviors from citizens and businesses are required.

- **Public education geared toward broad community stewardship of water resources.** The Federal NPDES Stormwater Program places significant emphasis on public education as part of the long-term solution to stormwater pollution. As such, education is a required element of the Stormwater Plan. The long-term success of the City's efforts will hinge on increased awareness and stewardship throughout the community. The Stormwater Plan will result in formal, organized educational and outreach efforts that are targeted broadly throughout the metropolitan area. Many of these efforts are most effectively approached on a metro-wide basis, through cooperative efforts with local jurisdictions, such as the City of Eugene, Lane County, and the local school districts.

- **Public awareness and involvement in the City's Stormwater management program.** Broad awareness and participation in the development and implementation of the Stormwater Plan by residents and local area businesses is a key component to ensure effectiveness of the Stormwater Plan. The Stormwater Plan includes a public involvement component in its development that meets the Federal NPDES program, and which was approved by the City's Committee for Citizen Involvement as consistent with the City's Citizen Involvement Program. (See Appendix B - Adopted Public Involvement Plan, 2003.)

- **Targeted capital improvements and maintenance programs to improve water quality and restore high priority areas (such as Mill Race and Cedar Creek).** Concurrent with the development of the Stormwater Plan, the City has prepared a Stormwater Facilities Master Plan, which updates the City's needs assessment and Capital Improvement Program (CIP) for future drainage infrastructure. The Stormwater Plan will support development and implementation of the Stormwater Facilities Master Plan and CIPs in a manner that helps meet the City's water quality objectives. The City also is working to restore significant waterways, like the Springfield Mill Race, through cooperative efforts with the U.S. Army Corps of Engineers and other local partners.

- **DEQ-required Municipal Separate Storm Sewer System (MS4) Plan elements.** The CWA NPDES Stormwater Program requires that the City submit a MS4 plan in order to acquire a MS4 permit to legally discharge stormwater to the waters of the U.S. The MS4 plan, which must be submitted to the Oregon Department of Environmental Quality (DEQ) by March 10, 2004, is contained as an element of the Stormwater Plan.

(See Chapter 5 – Municipal Separate Storm Sewer System (MS4) Plan.) The form and content of that element follows the requirements provided in DEQ's MS4 permit application guidelines. (See Appendix C - DEQ Guidance for development of MS4 Stormwater Management Program Plans.)

Organization

The Stormwater Plan is organized as a series of chapters that provide summaries of the key Stormwater Plan elements, and a final "chapter" is the MS4 plan. Chapter Two describes relevant regulatory programs and requirements with which the Stormwater Plan must comply. Chapter Three summarizes the condition of the City's stormwater systems, including an assessment of open channels and other information on water quality and quantity aspects of the stormwater drainage system. Chapter Four includes goals, policies, and implementation actions, which capture targets and efforts necessary to reach those targets in order to improve overall conditions within Springfield's stormwater drainage system. Chapter Five of the Stormwater Plan is the MS4 plan, which is required submittal to the DEQ for approval and issuance of an NPDES MS4 stormwater discharge permit. While Chapter Five is constructed as a "stand alone" document for the purpose of satisfying the City's obligations under the NPDES MS4 permit, the provisions included in the MS4 plan are an integral part of the Stormwater Plan.

Finally, the Springfield Stormwater Management Plan Technical Supplement, published under separate cover, includes a series of appendices that provide expanded discussion, data, analyses, regulatory background and reference citations for summary information presented in the Stormwater Plan. The appendices are referenced throughout the Stormwater Plan where they are relevant.

CHAPTER TWO

REGULATORY CONTEXT and RELATIONSHIP TO OTHER PLANS

As noted in Chapter One, the Stormwater Plan is intended to address the requirements of various Federal, State and local water resources laws and management objectives. This Chapter summarizes the most significant Federal and State regulations. It also describes other related locally adopted plans with which the Stormwater Plan must be consistent.

Federal Clean Water Act (CWA)

National Pollutant Discharge Elimination System (NPDES) Program

The CWA is Federal law (see 33 USC 1251 et.seq) regulating water quality and discharges to waterways under State and Federal jurisdiction. It contains the predominant Federal requirements guiding the development and implementation of Springfield's Stormwater Plan, which are included in the CWA NPDES Stormwater Program (40 CFR, Part 122.26., See Appendix D). In Oregon, implementation of this Federal program has been delegated to the Oregon DEQ. The State's regulatory framework in place to implement this program is found in Oregon Administrative Rules (OAR) 340-041. Accordingly, the DEQ is the oversight body responsible for reviewing, authorizing, and monitoring compliance of the City's stormwater management efforts.

In 1999, the U.S. Environmental Protection Agency (EPA) finalized what have come to be commonly known as the NPDES "Phase II" rules for stormwater, governing small to medium-sized cities 50,000-100,000 in population across the country. (Cities with greater than 100,000 in population were regulated under "Phase I" of the Program.) These rules required Springfield to submit a MS4 stormwater discharge permit application by March 10, 2003. (Springfield's permit application submittal packet is included as Appendix E.) The date for submittal was subsequently revised to submit a MS4 plan by March 10, 2004, to receive the required MS4 discharge permit. Springfield submitted its application and plan in a timely manner.

In summary, to obtain the required permit, the City must:

> "Develop, implement, enforce, and measure the effectiveness of a Stormwater or MS4 Plan designed to reduce the discharge of pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Federal Clean Water Act and State of Oregon water quality regulations. The MS4 plan should include management practices, control techniques, system design and engineering methods, and other such

provisions the Department determines appropriate for the control of such pollutants." (DEQ NPDES MS4 Permit Guidance, 2002.)

The Federal rules and, therefore, DEQ's permit requirements, direct that the City's MS4 plan address six minimum areas, which are termed "Minimum Control Measures." These areas are broadly titled in the rules as follows:

(1) Public Education and Outreach on Stormwater Impacts;
(2) Public Involvement/Participation;
(3) Illicit Discharges Detection and Elimination;
(4) Construction Site Stormwater Runoff Control;
(5) Post-Construction Stormwater Management for New Development and Redevelopment; and
(6) Pollution Prevention in Municipal Operations;

Under each of these areas described above, the City's MS4 plan must contain the following information:

- The structural and non-structural Best Management Practices (BMPs[1]) that the permittee or another entity will implement for each of the stormwater Minimum Control Measures;
- The measurable goals (Benchmarks) for each of the BMPs including, as appropriate, the months and years in which the permittee will undertake required actions, including interim milestones and the frequency of the action; and
- The person or persons responsible for implementing or coordinating the BMPs for the permittee's MS4 plan.

In addition to the requirements listed above, the permittee must provide a rationale for how and why each of the BMPs are selected and measurable goals for the permittee's

[1]Stormwater Best Management Practices (BMPs) is a *catchall* term for approaches to managing stormwater that reduce negative impacts of runoff on the receiving streams. While the term has become widely used by the regulatory agencies and throughout the stormwater management industry, it does not imply that each BMP is necessarily the "Best" at achieving a particular stormwater management objective. BMPs are alternatives to practices that reduce the water quality and flow management functions and benefits of the open drainage system such as piping, filling or hardening open drainageways. BMPs include, but are not limited to:

- *physical structures or created natural features such as wetlands or ponds* that improve water quality and/or attenuate flow;
- *maintenance or construction practices* that prevent erosion, control sedimentation, and reduce pollution entering runoff;
- *educational strategies* that inform the public, developers, business/industry, etc. on stormwater pollution prevention;
- *regulations and enforcement programs* that protect water quality;
- *protection of open drainageways* for stormwater treatment and conveyance, and *maintaining adjacent (riparian) buffers* to provide natural stormwater filtration, cooling and long-term channel stability and other stormwater management functions; and avoidance of piping, filling, or deteriorating the condition of open drainageways.

stormwater management program (see Appendices C and D for additional information about the CWA NPDES Phase II Stormwater Program rules). Chapter Five of this Stormwater Plan is intended to meet the requirements described above, and is intended to serve the City's submittal to DEQ for regulatory purposes.

CWA Section 303 Implemented Through Oregon Water Quality Standards and TMDL Programs

Section 303 of the CWA includes requirements for the EPA (and in Oregon's case, the DEQ) to establish water quality standards for open waterways, track water quality in those waterways, and enact provisions for re-establishing water quality in degraded rivers and streams. Water quality standards are developed by DEQ for a wide range of pollutants, including toxic chemicals, metals, and parameters such as dissolved oxygen and pH. A complete summary of Oregon's Water Quality Standards are included in Appendix F.

Under Section 303(d), DEQ is required to maintain a list of water bodies that do not meet one or more of the adopted water quality standards. The listed water bodies are those for which actual data demonstrates they are "water quality limited" for specific pollutants of concern. In the Springfield area, the McKenzie and Willamette Rivers are both included on the "303(d) List" as being water quality limited. Both rivers are listed for exceedance of the temperature standard, and the Willamette River exceeds the safety standard for mercury.

Once a water body is included on the 303(d) List, DEQ must determine pollutant levels that can be discharged to a water body and still allow the water body to sustain other beneficial uses (i.e., the stream's assimilative capacity). DEQ then translates this amount into a maximum allowable daily loading for that waterway or reach, called a Total Maximum Daily Load (TMDL). Finally, the DEQ allocates the TMDL among all of the individual pollutant sources and regulates those sources to allow discharges no greater than their allotted amounts. These amounts are called "waste load allocations."

These allowable pollutant discharge loads are then assigned to dischargers, who must either ensure: (a) their discharges of those pollutants do not exceed DEQ-assigned limits, or (b) they implement DEQ-required pollution control measures (Best Management Practices) to minimize these pollutants. For Springfield, TMDLs are anticipated for water temperature, which adversely impacts threatened fish, and mercury, which is a toxin to humans, on either or both the McKenzie and Willamette Rivers and their tributaries (which include Springfield drainageways).

Based on discussions with DEQ staff and other potentially impacted public agencies regarding the development of this Stormwater Plan, it is not anticipated that Springfield will receive numeric limits for either temperature or mercury levels in its stormwater discharge permit. However, the City anticipates DEQ's development of benchmarks and management plans that will ultimately impact Springfield's stormwater program. Therefore, this Stormwater Plan recognizes that temperature and mercury are identified pollutants of concern, that they pose ongoing threats to the health of the local waterways, and that

Springfield's stormwater management strategies should address these pollutants among the pollutants of concern typically found through the urban drainage system.

In 2008 the City of Springfield filed a Draft TMDL Implementation Plan with the DEQ as required. The Draft TMDL IP was approved by the DEQ in April of 2009. (See Appendix L – Springfield's TMDL Implementation Plan, 2009).

CWA - Federal (and State) Regulation of Fill and Removal Activities

The CWA includes provisions (under Section 404) for regulating the filling and/or removal activities in waters of the U.S., including waterways and wetlands. Oregon has similar State laws and programs, administered by the Division of State Lands, which regulate fill/removal activities in waters and wetlands under State jurisdiction. This activity can have significant long-term impacts on Springfield's stormwater management capabilities because wetlands, swales, creeks, etc. are an integral part of the natural and constructed stormwater management infrastructure. Fill and other alteration of wetlands and drainageways can reduce the natural functions they provide to moderate stormwater flows and remove pollutants. Therefore, this Stormwater Plan recognizes that local compliance with the State and Federal laws protecting wetlands and open waterways, and requiring pretreatment of stormwater prior to discharge to regulated waterways are significant aspects of meeting NPDES stormwater quality objectives.

Federal Endangered Species Act (ESA)

The Federal ESA provides protection for plant and animal species listed as threatened or endangered by either the U.S. Fish and Wildlife Service (USFWS) or U.S. National Oceanic Atmospheric Administration (NOAA) Fisheries. In the Eugene-Springfield area, the Spring Chinook Salmon and Steelhead are listed as threatened in the McKenzie and Willamette Rivers and the Bull Trout is listed as threatened in the McKenzie River. Because urban stormwater management has significant potential to impact the habitat for these locally listed threatened species, several sections of the ESA provide additional Federal guidance to the development and implementation of this Stormwater Plan.

Specifically, ESA Section 9 prohibits "take" of a listed species, which includes damage to habitat, and applies to all City activities and regulatory programs. ESA Section 4(d) requires NOAA Fisheries to establish protective rules "necessary and advisable to provide for conservation of the species." Specific Federal rules applicable to the Eugene-Springfield area have been adopted that (1) prohibit injury or killing protected fish or impairing habitat or migration; (2) include "exceptions" or "limits" exempting specific programs approved by NOAA Fisheries as having minimized negative impacts; and (3) include "Take Guidance" describing activities likely to result in the unlawful "take" and lead to enforcement actions. Examples of actions which may cause harm and result in a "take" include allowing or contributing to excessive sedimentation or unacceptably high water

temperatures in the local waterways. (See Appendix G for additional information on the ESA and NOAA Fisheries' recommended BMPs to address stormwater impacts.)

Federal Safe Drinking Water Act (SDWA)

The SDWA was established to protect the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designated for drinking use, whether from above ground or underground sources (see 42 U.S.C. s/s 300f et seq., 1974; and 42 U.S.C. s/s 4321 et seq., 1969). Like the CWA, certain provisions have been delegated to the DEQ for implementation. In Oregon, the program regulating the injection of surface water or contaminants into the subsurface Underground Injection Control (UIC) has been delegated to the DEQ.

The UIC Program provisions include control of certain avenues for pollutants to enter groundwater aquifers, such as injection wells, dry wells, french drains or other facilities which infiltrate surface water to the subsurface. The City of Springfield, in collaboration with the Springfield Utility Board, has adopted a Drinking Water Protection Plan (DWPP) that addresses the protection of Springfield's groundwater aquifers. The policies and implementation actions included in this Stormwater Plan must be consistent with State and Federal requirements and the DWPP. As well, this Plan recognizes that Eugene's sole source of drinking water is the McKenzie River downstream of several City stormwater outfalls to the river.

State Anti-degradation Policy

The State Anti-degradation Policy is an administrative rule developed to insure against gradual, incremental degradation of water quality. Oregon Administrative Rule 340-041-0026, *Policies and Guidelines Generally Applicable to All Basins*, sets forth Oregon's policy with regard to water quality, which prohibits unnecessary degradation of water quality throughout the state, with certain exceptions. The excerpt below summarizes the policy:

> "In order to maintain the quality of waters in the State of Oregon, the following is the general policy of the EQC:
>
> "**Anti-degradation Policy for Surface Waters.** The purpose of the Anti-degradation Policy is to guide decisions that affect water quality such that unnecessary degradation from point and nonpoint sources of pollution is prevented, and to protect, maintain, and enhance existing surface water quality to protect all existing beneficial uses….Where existing water quality meets or exceeds those levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, and other designated beneficial uses, that level of water quality shall be maintained and protected."

This policy will be applied by DEQ in its review of Springfield's MS4 plan for approval and issuance of a MS4 permit.

Oregon State Land Use Planning Goals 6 and 11

Two of the State's planning goals--6 and 11--are of particular importance to Springfield's Stormwater management program. The Goal and Administrative Rule citation are provided below. The full text is included in Appendix H.

> **Goal 6**: AIR, WATER AND LAND RESOURCES QUALITY, OAR 660-015-0000(6) - To maintain and improve the quality of the air, water and land resources of the state.
>
> **GOAL 11**: PUBLIC FACILITIES AND SERVICES, OAR 660-015-0000(11) - To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

The Eugene-Springfield Metropolitan Area General Plan (Metro Plan), which serves as the State required comprehensive plan for the Eugene-Springfield metropolitan area and the Eugene-Springfield Public Facilities and Services Plan (PFSP), are acknowledged by the Land Conservation and Development Commission (LCDC) as meeting the requirements of Statewide Planning Goals 6 and 11. These plans both contain policies that guide the City's planning and management of stormwater infrastructure and water resources. Therefore, this Stormwater Plan and its implementation must be consistent with the Metro Plan and PFSP policies. Relevant policies from these metropolitan-wide planning documents are excerpted and provided in Appendix I.

CHAPTER THREE

SPRINGFIELD'S WATER RESOURCES and STORMWATER INFRASTRUCTURE

Overview Of Springfield's Stormwater Drainage Systems

The City is responsible for implementing surface water management activities within its boundaries, including the planning, design, construction, operation, and maintenance of the stormwater drainage system. The City performs all operation and maintenance on the public drainage system that is designed and constructed to public standards and located within easements or rights-of-way, or real property that has been conveyed or dedicated to the City. The City also maintains open channels throughout the city, many of which are old irrigation canals, and public outfalls to natural sloughs and streams within the City's jurisdiction.

The geographic area covered by this Plan includes approximately 15.1 square miles inside the Springfield city limits and an additional 7.3 square miles of urbanizable area (i.e., between the city limits and the urban growth boundary [UGB]). Map 1 shows the boundaries of the Plan and adjacent areas outside the UGB which impact, or are impacted by this Stormwater Plan, the Stormwater Facility Master Plan, and the NPDES MS4 permit.

The Springfield stormwater drainage system and management obligations encompass 170 miles of piped drainage system, and 26 miles of open channel waterway throughout the area as well as 6,000 catch basins, nine municipally-owned stormwater detention and water quality facilities (ponds and swales), and 400 curb miles of streets which are swept to remove pollutants and debris.

The Springfield metropolitan area's stormwater drainage systems also include many private stormwater management facilities that help moderate and reduce the volume and pollutant content of stormwater leaving private property and entering the public stormwater drainage system and/or local rivers and streams. These systems have been incorporated into newly developing properties since the late 1980s and include both mechanical pollutant removal devices, and constructed bio-swales, wetlands and other landscape features that use natural processes to clean and reduce the volume of stormwater flows to the public system. These private facilities are vital to the long-term effectiveness and affordability of the City's Stormwater Management program.

Stormwater Drainage Basin Characterization

Springfield's stormwater drainage system has two major drainages, one that flows to the Willamette River, and one that flows to the McKenzie River. The City is further broken down into 15 separate subbasins (See Map 2). A drainage basin can be described as a geographic area within which stormwater drains from many small systems converging on larger drainageways, ultimately culminating in outfalls to rivers or major drainageways. The character and condition of the drainageways varies significantly throughout the basins, depending on surrounding land uses and contributing drainages. A complete description of each of Springfield's 15 basins is included in Appendix J.

General Conditions and Key Water Quality Issues in Springfield Drainage Basins

Several studies have been conducted by the City to assess water quality and the drainage system condition. They are summarized below:

Springfield Open Channel Assessment Report, 2002:

In 2001-2002, the City undertook an assessment of its open channel system and developed a report that outlines critical information on the overall condition of the water and waterways. The report addresses channel shape, bank configuration, riparian condition, and presence of invasive species. Basic water quality parameters were measured, including temperature, dissolved oxygen, and pH.

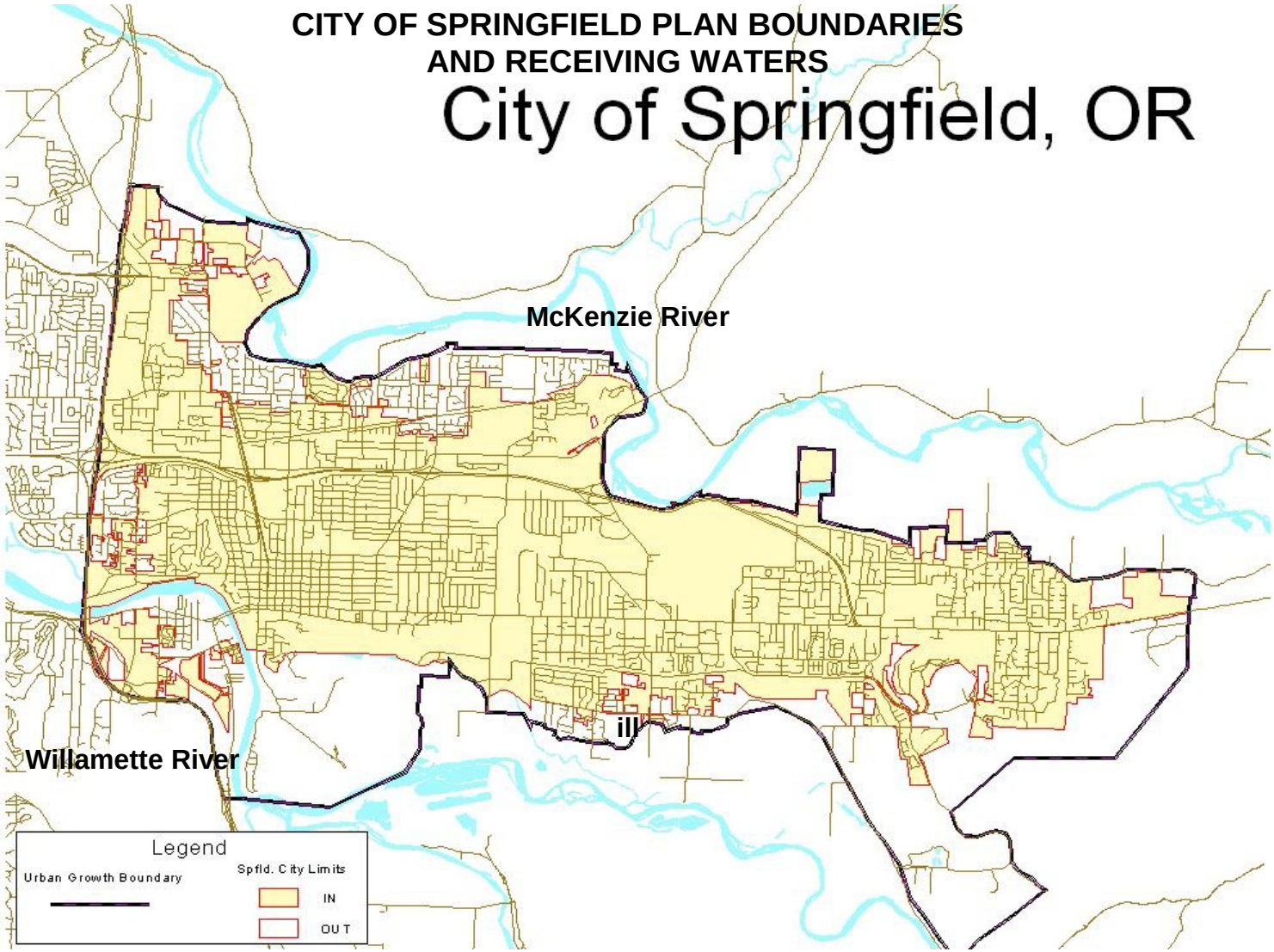
The results of this assessment show that a significant number of Springfield's waterways are degraded, with high concentrations of invasive species, areas of channel erosion, and elevated water temperature. Riparian areas lack proper plant species for shade cover and exhibit damage from erosive down cutting and burrowing animals, such as nutria. Drainageways in residential area are frequently characterized by residential dumping of pet waste, trash and debris, and illicit discharges of contaminants. The Channel Assessment Report is included in Appendix K.

Springfield Outfall Inventory, 2002:

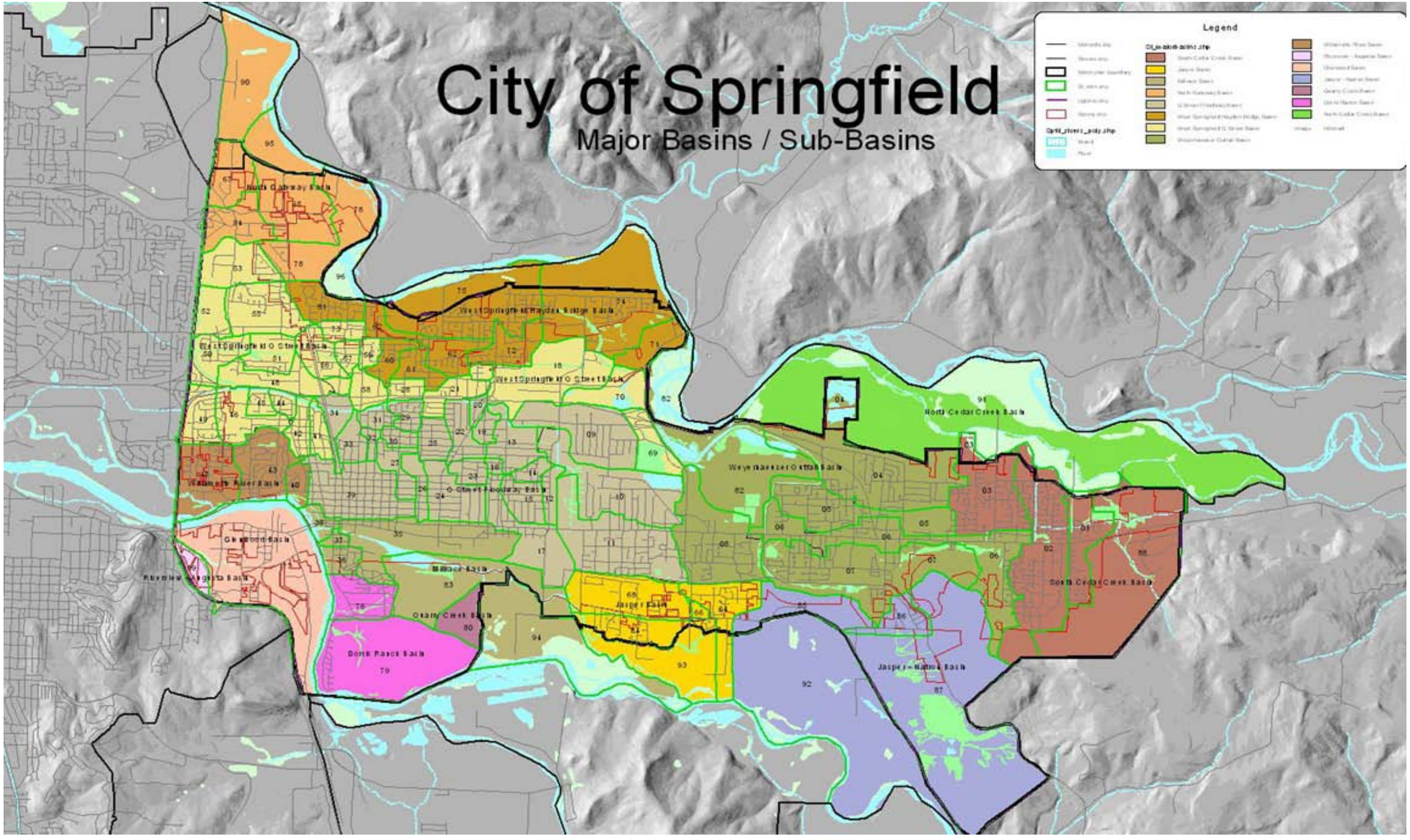
An inventory of the outfalls to the City's stormwater drainage system was conducted in 2002, to identify and map both known and unknown stormwater outfalls. This inventory characterized outfalls by size and location, and successfully identified over 700 previously unknown contribution points to the City's stormwater drainage system. This information enables the City to more accurately predict runoff rates and areas where drainage systems may be operating beyond design capacity. It also enables the City to identify locations and sources of pollutants entering the stormwater drainage system. The Outfall Inventory is maintained in data base and GIS format.

MAP 1

CITY OF SPRINGFIELD PLAN BOUNDARIES AND RECEIVING WATERS



MAP 2


City of Springfield
Major Basins / Sub-Basins
Legend
North Gateway Basin
West Springfield Hayden Bridge Basin
West Springfield O Street Basin
Willamette River Basin
O Street Floodway Basin
Glenwood Basin
Riverview Heights Basin
Mohawk Basin
Gray Creek Basin
Dorris Ranch Basin
Jasper Basin
Weyerhaeuser Quarry Basin
North Cedar Creek Basin
South Cedar Creek Basin
Jasper - Natron Basin

Water Quality Monitoring and Pollutant Investigations:

The City has conducted limited monitoring in the stormwater drainage system since 2002, using both continuous recording monitoring equipment as well as "grab" type sampling. The thrust of this effort has been to gain information on water quality citywide, focusing on a very basic set of water quality parameters, including: temperature, pH, dissolved oxygen, bacteria, toxic metals, oil and grease, and biological oxygen demand.

Results of this monitoring show that waterways in Springfield generally exceed State water quality standards for temperature, pH, and bacteria levels, and occasionally exceed the standard for zinc and lead. Causes are both episodic (infrequent or one-time events), such as occasional spills, overflows, or first-flush type events which wash into storm drains, and chronic, such as high levels of bacteria from improper pet waste disposal or improperly plumbed sanitary connections.

Additional water quality monitoring has been done by students in the Springfield School District, primarily on the Mill Race and Cedar Creek. These long-term studies show excessive levels of bacteria on both of these waterways, and water temperatures in excess of State water quality standards.

Limited water quality monitoring also has been conducted jointly between the City and the Eugene Water and Electric Board (EWEB) to assess water quality in Cedar Creek, which directly impacts McKenzie River water quality. This "first flush" monitoring has shown exceedances of State water quality standards for bacteria and toxic metals in water samples from City outfalls to this waterway.

The City also maintains a data base of water quality problems and pollution incidents, which is generated by complaints received from the public and City staff. This information is used as a water quality monitoring tool in addition to its primary purpose of identifying and responding to illicit pollutant discharges (which is a requirement of the NPDES MS4 permit).

Findings and Conclusions

Open drainageways in good condition provide both water quality improvement and capacity functions. However, deteriorated conditions currently exist throughout the Springfield stormwater drainage system, and the studies and data outlined above indicate the City's open drainageways are not functioning effectively to improve or prevent declines in stormwater quality. Further, waterways are subject to abuse from dumping, erosion, industrial discharges, and habitat degradation. They are too warm, too polluted, and too impacted by invasive species to function adequately to meet water quality standards that provide minimum conditions needed to sustain beneficial uses.

The following findings and conclusions are derived from the studies and monitoring of Springfield's stormwater drainage system, along with the State and Federal studies and regulatory guidance:

1. The pollutants found in Springfield's stormwater are not unique, but are typical of urban environments throughout the country. The data shows that City stormwater periodically exceeds State water quality standards (see OAR 340-41-0445, Water Quality Standards). The typical pollutants and sources of concern observed in the Springfield stormwater drainage system include:

- Bacteria from pet wastes and other sources,
- Metals, chemicals, and petroleum products from automobiles,
- Increased water temperature generally, and from industrial cooling water discharges to the stormwater drainage system,
- Sediments, debris, and a broad spectrum of pollutants discharged unlawfully by citizens, business, and industry.

2. Springfield's stormwater drainage system has evolved over time from natural and created waterways that have been adapted to provide for stormwater drainage conveyance. Historical stormwater and land management practices have resulted in system conditions in which stormwater quality functions of open waterways have been significantly reduced. Additionally, water quality and wildlife habitat have declined.

3. It is widely held throughout the stormwater management discipline and embraced by regulatory agencies, that protecting, restoring, and maintaining open waterways and their associated riparian areas is critical to successfully reversing water quality and fish habitat degradation (See NOAA Fisheries guidance in Appendix G). In addition to their water quality benefits, open waterways provide the best opportunities to become positive community amenities, to enhance wildlife habitat, and to enhance flow management capabilities. Piped drainage systems preclude many of the functions provided by open waterways. Therefore, maintaining the current system of open waterways in Springfield is a desired condition, wherever feasible.

4. Since waterways do not follow political boundaries, Springfield's success in addressing water quality issues will require working in conjunction with Lane County and the City of Eugene along with other cooperative partnerships, such as the McKenzie Watershed Council and the Middle Fork Willamette Watershed Council.

5. State and Federal regulations require that discharges into waters of the U.S. meet minimum State water quality standards, and that they not harm threatened or endangered species. While Springfield has initiated measures to meet these many requirements, water quality in Springfield's stormwater drainage system does not consistently meet minimum standards.

6. Cedar Creek, located adjacent to the Springfield city limits on the north, and the Springfield Mill Race are both classified as salmon-bearing waterways. Cedar Creek discharges to the McKenzie River a short distance above the water intake for the City of Eugene. The Mill Race discharges to the Willamette River at Island Park, where visitors

swim, boat, and fish. The Mill Race is presently undergoing a major renovation aimed at improving water quality and fish passage.

Both waterways receive stormwater discharges from the city, and monitoring has shown that both have significant water quality issues, including high levels of bacteria and warm temperatures, as well as other urban pollutants. Because of their respective status as discussed above, the water quality of the City's stormwater discharges to these systems has become a high priority, with the goal of consistently meeting or exceeding State water quality standards.

7. At the time of this Stormwater Plan's development, only the NPDES MS4 permit requirements were in effect. However, additional regulations have been developed by the DEQ for temperature, bacteria and mercury in 2006. These regulations may ultimately include, arsenic, or other pollutants as well. All of these pollutants can be addressed through the application of BMPs, which will likely need to be added to the City's Stormwater Management program.

8. The listing of threatened aquatic species in both the McKenzie and Willamette Rivers compels the City to develop this Stormwater Plan in a manner that ensures that the City's stormwater discharges, open waterways, and riparian areas meet at least minimum standards for fish migration, rearing, and spawning. Enhancements of existing waterways, through projects such as the Springfield Mill Race Ecosystem Restoration Project, are examples of the City's efforts to meet its ESA compliance obligations.

9. Most stormwater drainage basins within the city have stormwater quality and quantity issues that are common to basins in cities with similar characteristics. Therefore, they will likely respond to management practices which have been shown in similar circumstances to enhance water quality and manage flooding and high flow problems.

10. Many areas of the city are served by inadequate stormwater drainage systems, as shown by the limited capacity of some systems to accommodate new development and control flooding. The City's assessment of stormwater system capacity needs and recommended future capital improvement projects is occurring with the development of a new Stormwater Facility Master Plan, which was completed in 2008.

11. The International Paper facility, formally the Weyerhaeuser Company discharges non-contact cooling water from its plant in northeast Springfield under a 1200Z NPDES industrial discharge permit. Presently, this flow is managed by a gated system, with flows diverted seasonally into either the McKenzie River or the Irving Slough, and from there on to the Willamette River. As concern over water temperature in these salmon-bearing waterways increases, these warm discharges pose an increasing concern for both the City and International Paper. This issue is currently being approached cooperatively, but continues to present a concern, specifically with regard to salmonid habitat and ESA compliance.

12. Many industries and businesses within this Stormwater Plan's jurisdiction experience challenges with stormwater discharges. These may include functional issues, such as developing effective drainage systems to avoid flooding, or may be water quality related, such as limiting the discharge of certain pollutants. Associated with some of these industries are additional concerns about compliance with existing NPDES permit conditions and other State, Federal, and local requirements. These problems range across the City's various drainage basins and can pose a hurdle to businesses.

13. Significant progress has been made by the City, with regard to both meeting the requirements of the NPDES permit program, and implementing City Council goals. In addition to the work developed for submittal with the City's NPDES MS4 permit application, program development and implementation consistent with carrying out the Council's water resources management goals is progressing. However, full implementation of this Stormwater Plan and compliance with the MS4 permit and the ESA will require additional stormwater management resources for implementation of BMPs, maintenance activities, and capital improvements in the future.

CHAPTER FOUR

GOALS, POLICIES, and IMPLEMENTATION ACTIONS

This Chapter provides overall guidance to the City in performing stormwater management activities in a manner consistent with State and Federal laws, while meeting local goals and the long-term outcomes Springfield hopes to achieve. The following goals are derived from long-term key outcomes that have been reviewed by the City Council annually since 1999. The policies provide specific direction, consistent with the local goals, State and Federal requirements, and support implementation of Metro Plan and PFSP Policies.

Implementation Actions include BMPs discussed in detail in the MS4 plan (see Chapter Five) and other actions needed to achieve local objectives. The work plan for completion of Implementation Actions is shown in Table 1 - Stormwater Plan Implementation Action Summary.

GOAL 1: *Protect citizens and property from flooding.*

Policies

1.1 Maintain surface drainage in the City to reduce the threat of flooding, through proper maintenance of the City's stormwater drainage system infrastructure, with practices that are protective of water quality. *Note: Reflects policy guidance in the Public Facilities and Services Plan.*

1.2 Through the development review process, ensure that new development incorporates adequate stormwater management infrastructure to avoid downstream capacity and water quality problems. *Note: Reflects DEQ MS4 permit requirements.*

1.3 Preserve open stormwater drainage infrastructure where feasible, to best accommodate peak storm flows, maintain flood storage capacity, and promote water quality. *Note: Reflects Public Facilities and Services Plan policies and BMPs acceptable under the MS4 permit and NOAA Fisheries guidance for minimizing the effects of stormwater on threatened/endangered fish species.*

1.4 Adhere to standards, policies, and practices which comply with Federal Emergency Management Agency (FEMA) Flood Management Program requirements to insure that the City maintains flood insurance coverage under this program.

Implementation Actions

1.a. Continue evaluation of City maintenance practices and implement appropriate BMPs to assure that the City adequately maintains the stormwater drainage system capacity in an environmentally responsible manner; maintain updated Pollution Control Manual (PWM).

1.b. Evaluate other City activities that have potential to negatively impact stormwater quality and implement feasible alternative practices to minimize such impacts.

1.c. Evaluate and refine the City's Land Drainage Alteration Permit program, including educational outreach, inspection, and enforcement components to reduce the negative stormwater impacts from land alteration, erosion, sedimentation, and excessive runoff.

1.d. Develop a Stormwater Facilities Master Plan to assess the City's stormwater drainage system and capacity needs, and identify capital improvements and other measures necessary to maintain adequate system capacity for planned community growth.

1.e. Review and amend the Springfield Development Code as needed to comply with FEMA requirements for floodplain development.

1.f. Implement BMPs consistent with NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to ensure that the public is aware of the importance of maintaining open channels.

1.g. Implement BMPs consistent with NPDES Minimum Control Measure #4, Construction Site Stormwater Runoff Control, to minimize or eliminate erosion and sedimentation in the stormwater drainage system.

1.h. Implement BMPs consistent with NPDES Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Redevelopment, to ensure that new development is in compliance with flow-regulating management practices, such as detention ponds, on-site stormwater storage, etc.

1.i. Implement BMPs consistent with NPDES Minimum Control Measure #6, Pollution Prevention in Municipal Operations, to ensure adequate maintenance of the stormwater system.

GOAL 2: ***Ensure compliance with State and Federal requirements to reduce risks of third party lawsuits or enforcement actions.***

Policies

2.1 The City will submit all documents necessary and required by the DEQ to obtain a MS4 stormwater discharge permit. The City will meet all timelines for required work products and submittals to DEQ to maintain the City's MS4 permit in good standing.

2.2 The City will implement feasible changes to stormwater facilities and management practices and any other applicable City practices and programs to reduce pollutants regulated under the CWA and effectively address applicable provisions of the ESA.

2.3 The City will track State and Federal water quality laws and rules to ensure compliance is maintained over time.

Implementation Actions

2.a. Develop and maintain a Stormwater Management Plan and a Stormwater Facilities Master Plan to provide comprehensive guidance for stormwater management and infrastructure planning in the City and its urbanizable area that comply with all State and Federal requirements; maintain implementing codes/ordinances in compliance with laws.

2.b. Coordinate with other jurisdictions and agencies to ensure compliance with State and Federal laws, share informational resources, and enhance compliance. Continue participation in intergovernmental work groups, such as Metro ESA Coordinating Team (MECT) and Pollution Prevention Coalition (P_2C).

2.c. Develop and maintain the expertise to respond to significant pollution incidents in a manner that minimizes and mitigates violations of water quality standards.

2.d. Implement all six of the NPDES Minimum Control Measure BMPs. Implementing all of the provisions of the MS4 plan will limit the City's liability, in addition to significantly improving drainage.

GOAL 3: *Improve surface and subsurface waters for aquatic life and other beneficial uses*.

Policies

3.1 Springfield will monitor and implement practices and regulatory programs with the objective of improving surface and groundwater quality to, at a minimum, meet State water quality standards, adequately protect threatened and endangered wildlife, meet the State beneficial use guidelines, and comply with the State Antidegradation Policy.

3.2 The City will maintain its open channels and waterways in a manner that is protective of their natural stormwater management and habitat functions for the benefit of the citizens of Springfield, local wildlife, including threatened or endangered species, and future generations.

3.3 The City will educate the general public and provide technical assistance to businesses, industries, and TEAM Springfield agencies regarding practices and obligations for keeping pollutants out of the stormwater drainage system.

3.4 The City will enforce Codes prohibiting the discharge of any deleterious material to the stormwater drainage system.

3.5 The City will continue to maintain cooperative partnerships with local water providers, major industries, the McKenzie Watershed Council and the Middle Fork Willamette Watershed Council to address local stormwater quality issues.

Implementation Actions

3.a. Promote wellhead protection educational efforts, including signage, development project review, and public outreach.

3.b. Enhance erosion and illicit discharge detection and compliance efforts, including LDAP permitting and Code enforcement.

3.c. Continue to closely manage use of underground injection facilities in both public and private developments through the design review process.

3.d. Continue to support spill response training for City staff, including training and coordination with other jurisdictions for area or regional major event response.

3.e. Consider support for limiting extremely hazardous chemical use in wellhead protection zones.

3.f. Support public hazardous waste disposal events.

3.g. Maintain participation in the McKenzie Watershed Council and its Water Quality Committee.

3.h. Complete the Mill Race Ecosystem Restoration Project and develop a long-term Mill Race Management Plan that will ensure that the water quality benefits are sustained over time.

3.i. Seek grant funding to support restoration activities in key sensitive areas, such as Cedar Creek and the Weyerhaeuser McKenzie Natural Area.

3.j. Implement BMPs consistent with NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to enhance citizens' and businesses' knowledge regarding water quality regulations as well as the benefits to the community from properly functioning waterways.

3.k. Implement BMPs consistent with NPDES Minimum Control Measure #3, Illicit Discharges Detection and Elimination, to eliminate or minimize toxic discharges from business and industry.

3.l. Implement BMPs consistent with NPDES Minimum Control Measure #4, Construction Site Stormwater Runoff Control, to minimize sedimentation and channel degradation from construction sites.

3.m. Implement BMPs consistent with NPDES Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Redevelopment, to ensure long-term functioning of newly-developed sites.

3.n. Implement BMPs consistent with NPDES Minimum Control Measure #6, Pollution Prevention in Municipal Operations, to ensure that the stormwater drainage system is maintained in properly-functioning condition.

GOAL 4: ***Preserve and maintain surface waters, wetlands, and riparian* areas as *functional and attractive for people, fish, and wildlife.***

Policies

4.1 Through the development review process, the City will ensure that development is protective of significant open waterways, wetlands, and riparian areas.

4.2 The City will implement permitting programs, educational outreach, compliance inspections and enforcement activities as needed to reduce erosion, sedimentation, illicit discharges, and other pollution impacts to the City's waterways.

4.3 The City will seek funding and partnership opportunities for restoration efforts such as the Mill Race Ecosystem Restoration Project and Metro Waterways Project currently underway.

Implementation Actions

4.a. The City will review and refine its LDAP program, which addresses erosion, sedimentation, and the impacts of land alteration, including permitting, inspections, technical educational and outreach, and enforcement.

4.b. The City will review development proposals for impacts on open drainageways, wetlands, and riparian areas, and protect the functions and benefits of these areas as provided for in the Springfield Development Code and Engineering Design Standards and Procedures Manual.

4.c. The City will work cooperatively with citizens, businesses, and agencies to protect and improve surface waterways, seek opportunities for stewardship partnerships, further enhance educational opportunities, and continue participation in intergovernmental work groups.

4.d. The City will implement and continue to refine/improve BMPs for all City activities with potential to impact water quality and/or the functions of waterways, wetlands, and riparian areas.

4.e. Implement BMPs consistent with NPDES Minimum Control Measure #4, Construction Site Stormwater Runoff Control, to reduce or eliminate sedimentation from construction sites as a contributor to poor water quality and quantity management.

4.f. Implement BMPs consistent with NPDES Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Redevelopment, so new

development at a minimum maintains the functioning of the stormwater drainage system, and doesn't contribute to future degradation.

4.g. Implement BMPs consistent with NPDES Minimum Control Measure #6, Pollution Prevention in Municipal Operations, which is critical to maintaining properly functioning wetland and riparian areas and open channels.

GOAL 5: *Citizens, businesses, and industries understand the need to protect water quality.*

Policies

5.1 The City will develop targeted education and outreach and technical assistance programs regarding practices and obligations for keeping debris and pollutants out of the stormwater drainage system and train stakeholder groups in appropriate erosion control and sediment prevention practices, as well as stormwater management BMPs.

5.2 The City will seek to form partnerships with neighborhoods or groups interested in providing stewardship of local waterways.

5.3 The City will develop, implement, and enforce appropriate building, design, Municipal Codes and the Springfield Development Code to address water quality compliance issues, including pollution, habitat, and aesthetic issues, to encourage the development of urban waterways that are positive amenities in the community.

Implementation Actions

5.a. The City will continue to support outreach and education efforts regarding water quality, riparian and wetland areas, including business, contractor, and developer outreach programs to educate these parties about their impacts on stormwater quality.

5.b. Continue to maintain enforcement and compliance activities, including inspections, technical assistance, and Code enforcement.

5.c. Implement BMPs consistent with NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to engage the public in the efforts to create positive urban amenities.

5.d. Implement BMPs consistent with NPDES Minimum Control Measure #3, Illicit Discharges Detection and Elimination, to ensure that waterways are safe, meet State water quality standards, and can function as positive amenities.

GOAL 6: ***Provide regulatory certainty for the development community while ensuring that growth is not constrained by lack of planning or facilities.***

Policies

6.1 The City will develop and implement Codes addressing water quality and natural resource management, consistent with State and Federal requirements, to provide clear and objective standards for development.

6.2 The City will develop, within fiscal constraints, adequate stormwater infrastructure, and will maintain a Stormwater Facilities Master Plan that identifies public and private infrastructure needed to provide for and facilitate planned growth patterns.

Implementation Actions

6.a. The City will continue to adopt and update a Stormwater Facilities Master Plan.

6.b. The City will pursue capital projects supporting stormwater infrastructure development, consistent with fiscal restraints, State and Federal requirements, and the needs of the community. These projects will be identified in the Stormwater Facility Master Plan.

6.c. Implement BMPs consistent with NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to ensure that the development community is knowledgeable and informed regarding stormwater regulations.

6.d. Implement BMPs consistent with NPDES Minimum Control Measure #2, Public Involvement/Participation, to ensure that the public has adequate input into new requirements or regulations.

6.e. Implement BMPs consistent with NPDES Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Redevelopment, which addresses amendments to the Engineering Design Standards and Procedures Manual and Springfield Development Code.

GOAL 7: *Urban drainageways become community amenities.*

Policies

7.1 The City will conduct education and outreach activities to appropriate target groups to increase understanding of the importance of maintaining safe and clean drainageways, and to seek volunteers willing to be caretakers for water features near them.

7.2 The City will, through the Springfield Development Code and Engineering Design Standards and Procedures Manual, protect existing significant open waterways and encourage site planning and landscaping that enhances the attractiveness and natural functions of the water features.

7.3 The City will maintain urban drainageways in a manner that provides for safe and attractive conditions within the limits of its fiscal constraints.

Implementation Actions

7.a. Enhance the City's erosion control (LDAP) program, including educating developers and the community regarding the positive aspects of open waterways to promote acceptance, and integrating effective compliance and enforcement components.

7.b. Provide adequate funding for public maintenance of the stormwater drainage system, and ensure ongoing maintenance of private stormwater features through development agreements.

7.c. Increase educational outreach to schools to increase awareness of children regarding the need to keep litter and pollutants out of urban drainageways.

7.d. Implement all six of the NPDES Minimum Control Measure BMPs. Implementing all of the provisions of the MS4 plan will ultimately result in improved water quality and quantity management, improved habitat and resource protection, and, ultimately, enhance urban waterways as desirable community amenities.

Stormwater Plan Implementation Action Summary

Goal	Goal Description	IA Number	Implementation Action or BMP	Fiscal Year 07-08	Fiscal Year 08-09	Fiscal Year 09-10	Fiscal Year 10-11	July 1,2011 to Dec 31, 2011
1	Protect citizens and property from flooding.	1.a	Continue evaluation of City maintenance practices and implement appropriate BMPs to assure that the City adequately maintains the stormwater drainage system capacity in an environmentally responsible manner; maintain updated Pollution Control Manual (PCM)	Evaluate work practices; develop PCM	Implement training; iteratively evaluate	Implement training; iteratively evaluate	Amend/modify PCM as appropriate	Implement training; iteratively evaluate
		1.b	Evaluate other City activities that have potential to negatively impact stormwater quality and implement feasible alternative practices to minimize such impacts.	Develop workplan and identify dept./div.	Establish review workgroup with affected dept./div.; identify problem areas	Iteratively assess and develop BMPs	Implement BMPs	Evaluate; adjust/modify as appropriate
		1.c	Evaluate and refine the City's Land Drainage Alteration Permit program, including educational outreach, inspection, and enforcement components to reduce the negative stormwater impacts from land alteration, erosion, sedimentation, and excessive runoff	Identify and resolve staffing issues	Develop training, inspection schedules, outreach information	Inspections, permitting, review of regulations for gaps	Amend Code as needed; implement, evaluate changes	Inspections, permitting, review of regulations for gaps
		1.d	Develop a Stormwater Facilities Master Plan to assess the City's stormwater drainage system and capacity needs, and identify capital improvements and other measures necessary to maintain adequate system capacity for planned community growth	Assemble workgroup; retain consultant, identify tasks	Collect information, integrate into plan; review	Finalize plan, including adoption. Review CIP and funding	Implement CIP projects as prioritized	
		1.e	Review and amend the Springfield Development Code as needed to comply with FEMA requirements for floodplain development		Review and analyze for gaps	Amend code as appropriate	Review & analyze for gaps	Amend code as appropriate
		1.f	Implement NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to ensure that the public is aware of the importance of maintaining open channels.	See BMP Implementation schedule for BMPs under Measure 1 in Ch. 5				
		1.g	Implement NPDES Minimum Control Measure #4, Construction Site Stormwater Runoff Control, to minimize or eliminate erosion and sedimentation in the stormwater drainage system	See BMP Implementation schedule for BMPs under Measure 4 in Ch. 5				
		1.h	Implement NPDES Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Redevelopment, to ensure that new development is in compliance with flow-regulating management practices, such as detention ponds, on-site stormwater storage, etc.	See BMP Implementation schedule for BMPs under Measure 5 in Ch. 5				
		1.i	Implement NPDES Minimum Control Measure #6, Pollution Prevention in Municipal Operations, to ensure adequate maintenance of the stormwater system	See BMP Implementation schedule for BMPs under Measure 6 in Ch. 5				
2	Ensure compliance with State and Federal requirement to reduce risks of third party lawsuits or enforcement actions.	2.a	Develop and maintain a Stormwater Management Plan and a Stormwater Facilities Master Plan to provide comprehensive guidance for stormwater management and infrastructure planning in the City and its urbanizable area that comply with all State and Federal requirements. Maintain implementing codes/ordinances in compliance with laws.	Submit NPDES application; develop MS4 Plan	Finalize City's Plan and DEQ MS4 Plan	Implement plans		

Goal	Goal Description	IA Number	Implementation Action or BMP	Fiscal Year 07-08	Fiscal Year 08-09	Fiscal Year 09-10	Fiscal Year 10-11	July 1,2011 to Dec 31, 2011
2 (Continued)	Ensure compliance with State and Federal requirement to reduce risks of third party lawsuits or enforcement actions.	2.b	Coordinate with other jurisdictions and agencies to ensure compliance with State and Federal laws, share informational resources, and enhance compliance. Continue participation in intergovernmental work groups, such as Metro ESA Coordinating Team (MECT) and Pollution Prevention Coalition (P_2C).	Ongoing efforts; identify new opportunities as available				
		2.c	Develop and maintain the expertise to respond to significant pollution incidents in a manner that minimizes and mitigates violations of water quality standards.	Review capabilities; analyze and identify gaps	Training as appropriate	Training as appropriate	Review capabilities; analyze and identify gaps; train as appropriate	Training as appropriate
		2.d	Implement all six of the NPDES Minimum Control Measure BMPs. Implementing all of the provisions of the MS4 plan will limit the City's liability, in addition to significantly improving drainage.	See BMP Implementation schedule for all BMPs in Ch. 5				
3	Improve surface and subsurface waters for aquatic life and other beneficial uses.	3.a	Promote wellhead protection educational efforts, including signage, development project review, and public outreach.	Cooperatively identify and develop curriculum	Integrate program into existing SW educational efforts	Evaluate; adjust as needed	Evaluate; adjust as needed	Evaluate; adjust as needed
		3.b	Enhance erosion and illicit discharge detection and compliance efforts, including LDAP permitting and Code enforcement.	Evaluate and adjust LDAP fees; assess staffing requirements	Staff for LDAP program Staff for ID program	Implement educational and compliance components	Evaluate programs and requirements; adjust as needed	Evaluate programs and requirements; adjust as needed
		3.c	Continue to closely manage use of underground injection facilities in both public and private developments through the design review process.	Maintain plan review and site review program requirements				
		3.d	Continue to support spill response training for City staff, including training and coordination with other jurisdictions for area or regional major event response.	Identify appropriate staff; identify appropriate training	Provide for training and refreshers, as appropriate			
		3.e	Consider support for limiting extremely hazardous chemical use in wellhead protection zones.	Evaluate existing programs with SUB and others	Submit for council discussion, as appropriate	Pursue Council agenda on EHC's in protection zones	Implement	
		3.f	Support public hazardous waste disposal events.	Provide ongoing support for existing program				
		3.g	Maintain participation in the McKenzie Watershed Council and its Water Quality Committee.	Provide ongoing support for existing program				
		3.h	Complete the Mill Race Ecosystem Restoration Project and develop a long-term Mill Race Management Plan that will ensure that the water quality benefits are sustained over time.	Provide ongoing support for existing program, including Metro Waterways Project				

Goal	Goal Description	IA Number	Implementation Action or BMP	Fiscal Year 07-08	Fiscal Year 08-09	Fiscal Year 09-10	Fiscal Year 10-11	July 1,2011 to Dec 31, 2011
3 (Continued)	Improve surface and subsurface waters for aquatic life and other beneficial uses.	3.i	Seek grant funding to support restoration activities in key sensitive areas, such as Cedar Creek and the Weyerhaeuser McKenzie Natural Area.	Support Metro Waterways Project and Mill Race Habitat Restoration projects. Seek additional partnerships and funding opportunities for restoration, both public and private.				
		3.j	Implement NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to enhance citizens' and businesses' knowledge regarding water quality regulations as well as the benefits to the community from properly functioning waterways.	See BMP Implementation schedule for BMPs under Measure 1 in Ch. 5				
		3.k	Implement NPDES Minimum Control Measure #3, Illicit Discharges Detection and Elimination, to eliminate or minimize toxic discharges from business and industry.	See BMP Implementation schedule for BMPs under Measure 3 in Ch. 5				
		3.l	Implement NPDES Minimum Control Measure #4, Construction Site Stormwater Runoff Control, to minimize sedimentation and channel degradation from construction sites.	See BMP Implementation schedule for BMPs under Measure 4 in Ch. 5				
		3.m	Implement NPDES Minimum Control Measure #5, Post-Construction Stormwater Management for New Development and Redevelopment, to ensure long-term functioning of newly-developed sites.	See BMP Implementation schedule for BMPs under Measure 5 in Ch. 5				
		3.n	Implement NPDES Minimum Control Measure #6, Pollution Prevention in Municipal Operations, to ensure that the stormwater drainage system is maintained in properly-functioning condition.	See BMP Implementation schedule for BMPs under Measure 6 in Ch. 5				
4	Preserve and maintain surface waters, wetlands, and riparian areas as functional and attractive for people, fish, and wildlife.	4.a	The City will review and refine its LDAP program, which addresses erosion, sedimentation, and the impacts of land alteration, including permitting, inspections, technical educational and outreach, and enforcement.	See 3.b., above for LDAP program development				
		4.b	The City will review development proposals for impacts on open drainageways, wetlands, and riparian areas, and protect the functions and benefits of these areas as provided for in the Springfield Development Code and Engineering Design Standards and Procedures Manual.		Continue to pursue partnership opportunities (i.e., Metro Waterways). Utilize SFMP CIP priorities list and others to identify candidate sites. Pursue funding opportunities, grants, etc., to leverage available funding			Evaluate and adapt strategy as applicable
		4.c	The City will work cooperatively with citizens, businesses, and agencies to protect and improve surface waterways, seek opportunities for stewardship partnerships, further enhance educational opportunities, and continue participation in intergovernmental work groups.	Continue to support existing partnerships, and explore additional partnerships and joint opportunities as they occur				
		4.d	The City will implement and continue to refine/improve BMPs for all City activities with potential to impact water quality and/or the functions of waterways, wetlands, and riparian areas.	Complete SMP and continue work on SW Facilities Master Plan	Seek Council endorsement of SMP and MS4 Plan; complete Facilities Master Plan	Implement SMP and SFMP, including SFMP CIP projects plan		
		4.e	Implement NPDES Minimum Control Measure #4, Construction Site Stormwater Runoff Control, to reduce or eliminate sedimentation from construction sites as a contributor to poor water quality and quantity management.	See BMP Implementation schedule for BMPs under Measure 4 in Ch. 5				

Goal	Goal Description	IA Number	Implementation Action or BMP	Fiscal Year 07-08	Fiscal Year 08-09	Fiscal Year 09-10	Fiscal Year 10-11	July 1,2011 to Dec 31, 2011
4 (Continued)	Preserve and maintain surface waters, wetlands, and riparian areas as functional and attractive for people, fish, and wildlife.	4.f	Implement NPDES Minimum Control Measure #5, Post Construction Stormwater Management for New Development and Redevelopment, so new development at a minimum maintains the functioning of the stormwater drainage system, and doesn't contribute to future degradation.	See BMP Implementation schedule for BMPs under Measure 5 in Ch. 5				
		4.g	Implement NPDES Minimum Control Measure #6, Pollution Prevention in Municipal Operations, which is critical to maintaining properly functioning wetland and riparian areas and open channels.	See BMP Implementation schedule for BMPs under Measure 6 in Ch. 5				
5	Citizens, businesses, and industries understand the need to protect water quality.	5.a	The City will continue to support outreach and education efforts regarding water quality, riparian and wetland areas, including business, contractor, and developer outreach programs to educate these parties about their impacts on stormwater quality.		Expand existing education and outreach programs to business community	Evaluate program implementation; adjust as necessary	Continue program implementation	
		5.b	Continue to maintain enforcement and compliance activities, including inspections, assistance, and Code enforcement.	Complete review of codes and gap analysis	Evaluate staffing and training needs	Implement any recommendations from analysis	Continue support	
		5.c	Implement NPDES Minimum Control Measure #1, Public Education and Outreach on Stormwater Impacts, to engage the public in the efforts to create positive urban amenities.	See BMP Implementation schedule for BMPs under Measure 1 in Ch. 5				
		5.d	Implement NPDES Minimum Control Measure #3, Illicit Discharges Detection and Elimination, to ensure that waterways are safe, meet State water quality standards, and can function as positive amenities.	See BMP Implementation schedule for BMPs under Measure 3 in Ch. 5				
6	Provide regulatory certainty for the development community while ensuring that growth is not constrained by lack of planning or facilities.	6.a	The City will develop and adopt an updated Stormwater Facilities Master Plan.	See 1.d, above, for SFMP development and implementation				
		6.b	The City will pursue capital projects supporting stormwater infrastructure development, consistent with fiscal restraints, State and Federal requirements, and the needs of the community. These projects will be identified in the Stormwater Facility Master Plan.	See 1.d, above, for SFMP development and implementation				
		6.c	Implement NPDES Minimum Control Measure 1, Public Education and Outreach on Stormwater Impacts, to ensure that the development community is knowledgeable and informed regarding stormwater regulations.	See BMP Implementation schedule for BMPs under Measure 1 in Ch. 5				
		6.d	Implement NPDES Minimum Control Measure 2, Public Involvement/Participation, to ensure that the public has adequate input into new requirements or regulations.	See BMP Implementation schedule for BMPs under Measure 2 in Ch. 5				
		6.e	Implement NPDES Minimum Control Measure 5, Post-Construction Stormwater Management for New Development and Redevelopment, which addresses amendments to the Engineering, Design Standards and Procedures Manual and Springfield Development Code.	See BMP Implementation schedule for BMPs under Measure 5 in Ch. 5				

Goal	Goal Description	IA Number	Implementation Action or BMP	Fiscal Year 07-08	Fiscal Year 08-09	Fiscal Year 09-10	Fiscal Year 10-11	July 1,2011 to Dec 31, 2011
7	Urban drainageways become community amenities.	7.a	Enhance the City's erosion control (LDAP) program, including educating developers and the community regarding the positive aspects of open waterways to promote acceptance, and integrating effective compliance and enforcement components.	See 3.b., above, for LDAP program development				
				See 5.a. above, for public education program development				
		7.b	Provide adequate funding for public maintenance of the stormwater drainage system, and ensure ongoing maintenance of private stormwater features through development agreements.	Evaluate budget needs and user fee revenue requirements annually; work to insure adequate funding thru the budget process, to achieve permit compliance				
		7.c	Increase educational outreach to schools to increase awareness of children regarding the need to keep litter and pollutants out of urban drainageways.	Finalize workshop topics and schedule workshops	Provide classroom workshops		Update and review workshop program	Provide classroom awareness workshops
		7.d	Implement all 6 of the NPDES Minimum Control Measure BMPs. Implementing all of the provisions of the MS4 plan will ultimately result in improved water quality and quantity management, improved habitat and resource protection, and, ultimately, enhance urban waterways as desirable community amenities.	See BMP Implementation schedule for all BMPs in Ch. 5				

City of Springfield
Stormwater Management Plan

Municipal Separate Storm Sewer System (MS4)

Prepared by:
City of Springfield
Public Works Environmental Services Division
January, 2004 – Updated November, 2008 and March 2010

CHAPTER FIVE

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PLAN

Overview

This Chapter is intended as both part of the Springfield Stormwater Plan and as a "stand-alone" document for the purpose of meeting the requirements of Oregon's NPDES MS4 Stormwater permitting program. This format is intended to accommodate the needs of the City regarding overall compliance with ESA, SDWA, and other Federal, State, and local regulatory programs, while streamlining the actual materials required for submittal under Phase II of the Federal NPDES rules. The remainder of this Chapter - Phase II NPDES-MS4 Stormwater Plan submittal - was submitted to the DEQ in, 2004, and is the basis on which the City's MS4 permit is issued and monitored for compliance by DEQ.

The MS4 plan has been prepared with some assistance from consultants with considerable expertise and experience in meeting the specific requirements of the NPDES Stormwater Program. It is written to specifically address the Oregon Administrative Rules (340-041) and DEQ guidance documents to ensure that Springfield's stormwater management program and planned future activities are adequate to meet the minimum MS4 permit requirements.

While Chapter Four - Goals, Policies, and Implementation Actions - provides local general guidance for stormwater management activities, the activities (BMPs) contained in the MS4 plan are merely specific descriptions of how the Chapter Four guidance will be implemented. For that reason, Chapter Five incorporates some information which may appear redundant to the rest of the Stormwater Plan. The intended result is a City Stormwater Plan that addresses the full range of the City's stormwater management obligations and efforts which may change over time, and which includes within it, a streamlined document that expresses the City's commitments for the duration of the MS4 permit.

PHASE II NPDES – MS4 STORMWATER PLAN - SUBMITTAL TO DEQ

Introduction/Background

The Federal Clean Water Act (CWA) was amended in 1987 to include regulations for non-point source discharges to U.S. waters under the National Pollutant Discharge Elimination System (NPDES) program. In 1990, the U.S. Environmental Protection Agency (EPA) issued regulations specific to stormwater discharges, which apply to entities that own and operate municipal separate storm sewer systems (MS4s). Under the NPDES program, these entities are required to obtain a MS4 NPDES permit for stormwater discharges. In Oregon, the EPA has delegated authority for the program to the Oregon Department of Environmental Quality (DEQ). The program has been implemented and administered in two phases. The "Phase I" regulations adopted in 1990 address stormwater discharges from MS4s serving populations of 100,000 or greater. The "Phase II" regulations, adopted in 1999, address discharges from small MS4s, serving populations between 50,000 and 100,000 people. Springfield falls under the Phase II category.

The Federal NPDES Phase II stormwater regulations set forth a process for cities and other entities to apply for MS4 permits. These regulations are described in the Code of Federal Regulations under 40 CFR, Part 122.26. As required by the MS4 permit process, Springfield compiled and developed information that described local receiving waters, the City's stormwater drainage system, and a summary of the City's stormwater management strategies for reducing pollutants discharged from the system. The MS4 permit application requires the development of a MS4 Stormwater Management Plan (MS4 plan) that addresses the following six Minimum Control Measures:

Minimum Control Measure #1: Public Education and Outreach on Stormwater Impacts

Minimum Control Measure #2: Public Involvement/Participation

Minimum Control Measure #3: Illicit Discharges Detection and Elimination

Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Minimum Control Measure #5: Post-Construction Stormwater Management for New Development and Redevelopment

Minimum Control Measure #6: Pollution Prevention in Municipal Operations

For each Minimum Control Measure, the development and implementation of stormwater Best Management Practices (BMPs) are required. In addition, measurable goals for each of the BMPs must be established, responsible parties for implementing the BMPs must be identified, and a discussion of the rationale for how and why the specific BMPs are selected must be provided. In March 2003, the City submitted the required permit application

outlining stormwater management activities already completed by the City and those which still need to be undertaken to comply with the NPDES requirements. The permit application also provided a work plan and timetable for completing the City's NPDES required MS4 plan.

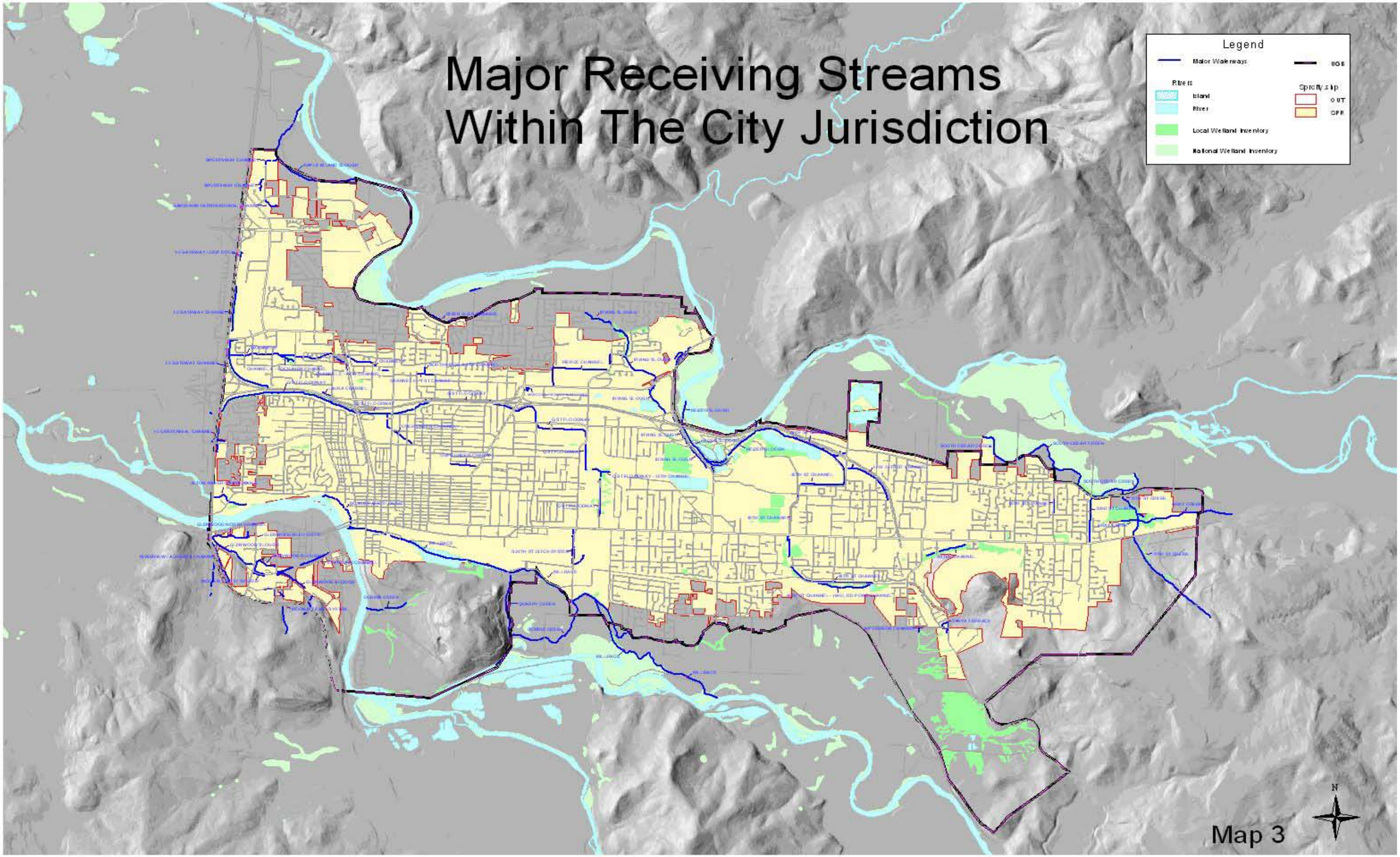
This MS4 plan completed the City of Springfield's required MS4 permit application. The format and content of the following MS4 plan elements are intended to fulfill the DEQ's MS4 stormwater discharge permit application requirements, as provided for in DEQ's adopted MS4 permit guidance.

Description of the Permit Area

The City of Springfield was incorporated on February 25, 1885, and currently serves a population of 58,005 people (2008) within the city limits, and an additional 14,000 (approximately) within the urbanizable area. The geographic boundaries of the MS4 plan are the Springfield city limits and the urban growth boundary (UGB) (See Map 1). The City's service area for stormwater planning encompasses approximately 15.6 square miles located within the city limits, and 7.2 square miles inside the urbanizable area (i.e., the area between the city limits and the UGB). The Springfield UGB encompasses the area in Lane County roughly bounded on the west by Interstate 5, eastward approximately seven miles, and between the McKenzie River on the north and the Willamette River on the south. The Springfield UGB also takes in an area south of the Willamette River referred to as Glenwood.

The City has complete authority and responsibility for planning, building, operating, maintaining and regulating the stormwater drainage system within the city limits. Through an urban transition agreement with Lane County, the City also has long-range and current planning and building permitting responsibilities in the urbanizable area. The City does not have operation or maintenance responsibilities for the urbanizable area. Therefore, the MS4 NPDES permit for which this MS4 plan was submitted covers only the area within the Springfield city limits. This may change in the future as Springfield and Lane County continue to expand cooperative approaches to efficient service delivery.

The major receiving streams within the City's jurisdiction include the McKenzie and Willamette Rivers (See Map 3). Three other major waterways passing through the city limits and urbanizable area include the Springfield Mill Race, Cedar Creek, and the Q Street Channel. Under Section 303(d) of the CWA, states are required to identify waters that fail to meet the water quality standards, and are required to develop Total Maximum Daily Loads (TMDLs) to address the specific pollutants contributing to the water quality degradation. DEQ has listed reaches of the McKenzie and Willamette Rivers within or adjacent to Springfield as being "water quality limited" on its 2002 303(d) list. Pollutants of concern include temperature for the McKenzie River and both temperature and mercury for the Willamette River. DEQ is presently in the process of developing TMDLs to address these river reaches.


Major Receiving Streams
Within The City Jurisdiction
Legend
Major Waterways
UGB
Rivers
Island
River
Specialty Zip
OUT
OPR
Local Wetland Inventory
National Wetland Inventory
Map 3
N

Upon adoption of the TMDLs, all parties with discharges to the rivers, including the City of Springfield, will either be allocated pollution limits for discharges to the affected waters i.e., numerical limits-based requirements, or be required to implement certain practices and provisions to minimize the pollutant (BMP-based requirements). While temperature is a known concern in Springfield's stormwater discharges, the contribution of mercury from Springfield's stormwater is not known. Springfield will address temperature and mercury issues as required by DEQ guidance if and when TMDLs are adopted and implemented. In 2008 the City of Springfield filed a Draft TMDL Implementation Plan with the DEQ as required; the DEQ approved the plan in April 2009. (See Appendix L – Springfield's TMDL Implementation Plan, 2009).

Springfield's NPDES MS4 Plan

City Stormwater Management Program - Responsible Parties:

The City is responsible for implementing surface water management activities within its boundaries, including the planning, design, construction, operation, and maintenance of the stormwater drainage system. In response to the NPDES Phase II stormwater requirements, the City has developed a MS4 plan addressing each of the six required Minimum Control Measures, as specified in the Federal-NPDES Phase II rules. The City's stormwater management program is the responsibility of the Public Works Department. However, the implementation of the City's MS4 plan will extend throughout the City organization.

City Stormwater Management Program - Funding:

Operations within the City's stormwater management program, including development and implementation of the MS4 plan is completely funded by "drainage user fees," which are billed on a monthly basis. Drainage user fees are made up of a base fee plus a fee calculated on impervious surface areas, including roofs and paved areas (such as parking lots and roads). Single family and duplex residences are charged a flat fee based on average amounts of impervious area. The stormwater drainage system Capital Improvements Program (CIP) is funded, in part, by user fees, and, in part by stormwater drainage system development charges (SDCs).

NPDES Phase II BMP Requirements:

Specific BMPs are proposed for each Minimum Control Measure, which are intended to support the reduction of discharges of pollutants in stormwater runoff to the maximum extent practicable (MEP) as required by the Federal-NPDES Phase II rules. Table 1 provides a summary of the selected BMPs and the associated implementation schedule. In this section, a summary sheet is provided for each Minimum Control Measure, which includes a list of the selected BMPs, the rationale for their development and selection, and a summary of the measurable goals and implementation schedule. The summary sheet is followed by a fact sheet for each of the selected BMPs. Together, the summary sheets and the BMP fact sheets provide the following information in accordance with the Federal rules:

(1) a list of the responsible parties for the BMP implementation;

(2) a brief description of the BMP;
(3) a description of existing conditions;
(4) the proposed MS4 plan activities;
(5) measurable goals; and
(6) an implementation schedule.

The BMP development/implementation schedule shows when certain activities will be completed on a fiscal year basis. The NPDES Phase II rules provide for a five-year implementation schedule starting from March of 2007. In March of 2004 the City submitted its original MS4 permit application. In March 2007 the DEQ finalized the permitting process for phase II cities and implementation took place in July of 2007. Therefore, the BMP implementation schedule lays out a five year schedule starting with fiscal year 2007.

Minimum Control Measure #1: Public Education and Outreach on Stormwater Impacts

Regulation: 40 CFR 122.34(b)(1)

"The permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of stormwater discharges on water bodies and the steps that the public can take to reduce pollutants in stormwater runoff."

Applicable City of Springfield BMPs

Public Education:

PE1 -- City Council and Planning Commission Communication and Coordination

PE2 -- Outreach Efforts with Regional Partners

PE3 -- Stormwater Education School Workshops

PE4 -- Stormwater Educational Brochures Portfolio

PE5 -- Utility Billing Inserts

PE6 -- Technical Assistance and Outreach to Targeted Businesses/Industries

PE7 -- Clean Water Storm Drain Curb Markers and Door Hangers

Rationale

Springfield selected the above seven BMPs in order to cover a wide range of audiences including City Council (BMP PE1), the general public (BMPs PE3, PE4, PE5, PE6 and PE7), and staff (BMPs PE2 and PE4). Coordinating with other agencies like the City of Eugene, Lane County, and others, helps to keep staff informed and educated on regional stormwater-related issues, such as existing materials and information available for common use (e.g., monitoring data and results of BMP evaluations), and issues such as ESA implications for City stormwater management activities. Springfield's strategy for developing and distributing the public education materials is to start with information such as the most typical sources of pollutants in stormwater runoff and the impacts associated with those pollutants, and making this information available as educational handouts, flyers, and mailings. Future activities will include outreach presentations, advertisements, and workshops for the public, businesses, industry, and various other stakeholders, to educate them on impacts that the City's stormwater management program may have, and what they can do to improve stormwater quality.

Responsible Parties

The Public Works Environmental Services Division is responsible for the development and implementation of the public education efforts.

Summary of Measurable Goals

Staff will use public events, periodic neighborhood surveys, consultation with planning commission members and city councilors, and community and citizen group leaders to solicit feedback on specific education/outreach efforts by the City.

Development/Implementation Schedule Summary

BMP#	PERMIT YEAR				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
PE1	Update City Council and Planning Commission on effectiveness of stormwater outreach efforts each year. (Ongoing)				
	Evaluate the public's perception of the City's success at addressing the seven key outcomes. (Ongoing)				
	Solicit feedback from City Council on effectiveness of communications.				
	Communicate MS4 plan requirements to Planning Commission and City Council.	No scheduled action.	No scheduled action.	Review and update key outcomes as necessary.	No scheduled action.
PE2	Continue partnership in local and statewide programs. (Ongoing)				
	Review effectiveness of partnership programs each year and modify as warranted. (Ongoing)				
PE3	Develop a stormwater education workshop/ promote through the School District	Provide workshops as requested to classrooms	Update and review workshop program - presentation effectiveness and interest	Provide workshops as requested	Update and review workshop program
PE4	Continue to develop, review and distribute public educational portfolio materials to key PW field staff each year.				
	Continue to provide stormwater educational material, spill response information and SOPPs to new PW staff each year.				

	Review field logs and update portfolios as necessary each year.				
PE5	Develop, print and distribute inserts once a year in billing statements.				
BMP#	**PERMIT YEAR**				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
PE6	Initiate one-on-one technical contracts with major industries with known water quality issues.	Continue outreach to include targeted industries included in EPA guidance.	Evaluate program effectiveness, including industry acceptance, success level, and compliance.	Adapt program as appropriate to enhance cooperation and effectiveness.	
	Continue inspections, complaint response, and compliance efforts.				
	Based on annual evaluation and feedback, conduct training as needed and tailored to industry/business. Provide technical assistance/training as industries and businesses become identified and/or part of the outreach program.				
	Annually evaluate feedback and revise training as needed.				
PE7	Citywide implementation of Clean Water Storm Drain Curb Markers and Door Hangers.				
	Curb marker installation and door hanger distribution 20% complete.	Curb marker installation and door hanger distribution 40% complete.	Curb marker installation and door hanger distribution 60% complete.	Curb marker installation and door hanger distribution 80% complete.	Curb marker installation and door hanger distribution 100% complete.

BMP PE1: City Council and Planning Commission Communication and Coordination

Responsible Parties

Public Works Department

BMP Description

Maintain an informed and educated City Council and Planning Commission through periodic communication of program requirements, regulations, strategies, and outcomes.

Existing Conditions

The City Council and Planning Commission are important partners in the implementation of a successful stormwater management program. They establish citywide goals and policies, guide strategy development, and ultimately approve funding for stormwater management planning and capital project implementation. A component of developing the Springfield MS4 plan has been a commitment to maintaining good communication with the Planning Commission and the City Council. Systematic, periodic communication of the goals and responsibilities of the stormwater program has resulted in seven long-term "Key Outcomes" developed as a framework for the stormwater management program. These outcomes were developed in 1999-2000 and reviewed annually since that time by the City Council.

The seven long-term Key Outcomes include:

- Protect citizens and property from flooding;
- Comply with Federal, State and local regulations and requirements;
- Provide safe groundwater for drinking;
- Ensure surface waters are safe for people and aquatic life;
- Provide urban drainageways that are also community amenities;
- Ensure that citizens, businesses, and industries understand the need to protect water quality and do their part; and
- Provide regulatory certainty for the development community while ensuring growth is not constrained by lack of planning or facilities

Proposed MS4 Plan Activities

The Public Works Department will continue to update the City Council and Planning Commission through informational communication packet items, and periodic work sessions.

Measurable Goals

Effectiveness of staff communication efforts will be evaluated by soliciting feedback from City Council and/or Planning Commission members at least once a year. Information obtained from the feedback will be factored into staff communication strategies through adaptive management. If feedback indicates communication avenues are not effective, a different approach will be developed and implemented. A program to evaluate the public's perception of the City's success at addressing the seven long-term Key Outcomes over time will be developed by analyzing survey results, reviewing complaint logs, and communicating with citizen groups and City customers.

Development/Implementation Schedule

BMP PE1:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Update City Council and Planning Commission on effectiveness of stormwater outreach efforts each year. (Ongoing)				
Evaluate the public's perception of the City's success at addressing the seven key outcomes. (Ongoing)				
Solicit feedback from City Council on effectiveness of communications.				
Communicate MS4 plan requirements to Planning Commission and City Council.	No scheduled action.	No scheduled action.	Review and update key outcomes as necessary.	No scheduled action.

BMP PE2: Outreach Efforts with Regional Partners

Responsible Parties

The City's Environmental Services and Maintenance Divisions staff coordinate with local and regional agencies on public education efforts. Their local/regional coordinating groups include: Pollution Prevention Coalition of Lane County (P_2C), a workgroup of staff from Springfield, Eugene, Lane County, Springfield Utility Board (SUB), Eugene Water and Electric Board (EWEB), Lane Regional Air Pollution Authority (LRAPA), and the DEQ. The Metropolitan Endangered Species Act [ESA] Coordinating Team (MECT) is comprised of members from the cities of Eugene and Springfield, Lane County, EWEB, SUB, Willamalane Park and Recreation District, and the Lane Council of Governments (LCOG). The Public Works Public Information and Education Specialist also coordinates public outreach/education efforts with peers from local public agencies.

BMP Description

Support selected local and regional partnerships with organizations and jurisdictions that present a well-organized and effective stormwater-related educational outreach program. Support may include financial contributions, participation on committees, staff time for projects, and freely sharing informational materials for use by partners. The purpose of this BMP is to enhance open exchange of proven ideas and strategies, and to enhance efficiency and cost effectiveness of public outreach efforts.

Existing Conditions

Various agencies and jurisdictions, both local and statewide, are involved with stormwater-related education efforts. Some of these entities have developed significant programs by virtue of involvement with NPDES regulations from the initial Phase I NPDES stormwater program in the early 1990s. Consequently, much information and program refinement has occurred, and several programs are quite advanced.

Information sharing is an efficient and effective way to gain expertise as well as multiply the efforts of any one group. The synergistic effect is increased further when dealing with local partners, as the "message" put forth by a combined effort is consistent across adjacent jurisdictions. Combining resources within the local area is a proven strategy to reduce confusion from inconsistent messages, gain support, enhance access to funding, and gain benefits from multiple viewpoints. Further, using an area-wide approach to identifying priorities for education insures that jurisdictions are not working at cross-purposes.

Springfield is a participant on the MECT, which was organized to coordinate a response to issues presented by the Endangered Species Act as it relates to governmental and quasi-governmental agencies in the Eugene/Springfield area. The MECT meets to address issues of mutual concern and to combine resources to gain the research and analyses

need to support local ESA planning and response activities. MECT's goal is to provide a coordinated approach to identifying and responding to habitat and water quality problems in the metro area, including prioritizing, locating funding, and coordinating a response to preserve, renovate, or restore riparian areas and waterways. In 2002, MECT produced a Comprehensive Riparian Assessment of local waterways in the metro (Eugene and Springfield) area, which identified target areas for protection and restoration activities. Shortly after the group stopped meeting as the project was concluded.

Springfield also participates in the P_2C. The P_2C provides useful, coordinated educational messages and technical assistance to the community regarding stormwater and pollution prevention issues. Examples of its efforts include a mercury thermometer exchange program at a recent home show event, and the development of a traveling educational display called the House of Pollution Solutions, and the DEQ grant-funded public information kiosks that are stationed throughout the metro area.

The City is an active member of the Oregon Association of Clean Water Agencies (OR-ACWA) in the state. In terms of education, ACWA has compiled or published several stormwater-related guidance documents. They include a CD of stormwater-related materials referred to as "the best of the best." They also developed a guide to managing underground injection facilities (UIC Manual), guidance documents on managing fats, oils, and greases in a sanitary system (FOG BMP Manual), an ESA guidance manual for cities, a model erosion control program, and numerous educational handouts. As a member and participant in ACWA, Springfield has participated in the development of and has access to these statewide materials.

Springfield also works with the City of Eugene, Lane County and other agencies in coordinating educational messages and technical assistance to the public involving car washing and pressure washing activities. Public messages have been advertised via radio and fact sheets and "fish friendly car wash kits" have been developed and are available to charity car wash groups.

Springfield along with the Willamalane Parks and Recreation District are currently working together on the installation and maintenance of doggie pot stations throughout Springfield's parks and public greenways.

Proposed MS4 Plan Activities

The City will continue to participate in local/regional/State partnerships that are deemed valuable in terms of public outreach effectiveness. If the opportunity presents itself, new partnership programs will be evaluated to determine if they are appropriate for the City to join. The City will continue to maintain the public information kiosk in Springfield City Hall.

Measurable Goals

The City will evaluate the current partnership programs annually to determine their effectiveness. Those programs determined to be less effective will be revised or removed.

Opportunities and available staffing and funding will also determine the number and level of participation in partnerships.

Development/Implementation Schedule

BMP PE2:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Continue partnership in local and statewide programs.				
Review effectiveness of partnership programs each year and modify as warranted.				

BMP PE3: Stormwater Education School Workshops

Responsible Parties

Environmental Services Division

BMP Description

Provide education classroom presentations on the sources and impacts of stormwater quality pollution.

Existing Conditions

The City is presently developing curriculum for presentations in elementary, middle, and high schools. The curriculum is based on approximately one-hour presentations, and will include participatory games, educational video, and exercises that include an overview of the stormwater drainage system in relation to other systems (wastewater, drinking water) and that stress the importance of citizens' household activities in fighting stormwater pollution.

Proposed MS4 Plan Activities

The Environmental Services Division will provide the presentations to classrooms upon request, with the number of presentations based on demand within the School District (which is undetermined at this point). The presentations will be advertised to teachers through the existing School District communications structure. The content of the presentations will be reviewed and updated every two years to reflect any changes in regulatory measures or City ordinances.

Measurable Goals

The effectiveness of this program will be gauged through the use of a teacher survey given at the completion of the workshop, or, alternately, a series of workshops within a school. Those areas identified as ineffective or poorly received will be enhanced or removed from the program. Those program elements viewed as effective will be maintained. Effectiveness of presentation advertisement will be gauged by teacher demand. Promotion efforts will increase if little interest is shown for scheduling presentations.

Development/Implementation Schedule

BMP PE3:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Develop a stormwater education workshop/ promote through the School District	Provide workshops as requested to classrooms	Update and review workshop program - presentation effectiveness and interest	Provide workshops as requested	Update and review workshop program

BMP PE4: Stormwater Educational Brochures Portfolio

Responsible Parties

Public Works Environmental Services and Maintenance Divisions.

BMP Description

A portfolio of educational brochures was developed for key Public Works field staff to assist with educating and informing the public when activities are observed that may adversely impact stormwater quality. New staff positions and the evaluation of the distribution methods has lead to a revamping of material and distribution methods. Portfolio material continues to be geared towards the public, with key Public Works field staff distributing the material and all Public Works field staff receiving training and guidance material on stormwater quality, illicit discharge response and policy and procedures. With this approach it is anticipated that all field staff will know how to identify stormwater concerns, how to respond, and who to contact as well as to be able to provide the public with a responding staff member that is qualified and up to date on stormwater management and illicit discharge issues and information.

Existing Conditions

City staff frequently observe activities throughout the city that violate City Codes and may result in impacts to the stormwater drainage system, such as improper erosion control, illicit discharges of pollutants, material dumping, or improper handling and/or storage of potentially polluting materials like petroleum products.

Formal enforcement activities are frequently not appropriate in these situations and education and technical assistance is often the best approach to achieve long-term behavioral changes and Code compliance. As well, the unlawful actions often are either too minor or conclusive evidence is not available to take enforcement action, or the incidents occur based on ignorance of how the stormwater drainage system works. These situations present an excellent opportunity for educating the responsible party by presenting information regarding options or alternative behaviors that do not adversely impact the environment.

An easily-managed portfolio containing a broad range of informational and educational handouts was developed for key City staff working in the field or responding to complaints of spills, dumping, or other problematic practices. Staff was trained on the use of the handouts, as well as information concerning the City's Municipal Code with regard to illegal activities covered by the handouts. The purpose of this portfolio is to insure that this material is readily available when violations are observed in the field. The handouts inform residents that their activities may cause significant pollution levels downstream, harming

fish, plants, and aquatic life, as well as potentially harming people swimming or recreating in the waterway.

The portfolios include handouts and brochures on a wide variety of household and construction BMPs, including concrete cleanout, car washing, restaurant and business stormwater BMPs, pet waste disposal, and more, addressing situations which are relatively frequently observed. Staff receiving these portfolios were briefed on the content and purpose of the handouts, and provisions were developed for updating and refilling the portfolios as the material was used. The portfolios were developed in 2001, and distribution and training on their contents occurred in 2002. They will continue to be refined and updated as appropriate.

In following years, two programs have evolved in Public Works that now have dedicated field staff that deal with illicit discharge and erosion activities. An evaluation of the existing portfolio material and distribution methods was also done resulting in updates to the material provided to staff and to the public. Guidance materials and standard operating procedures are provided to all Public Works field staff addressing water quality, spill response and illicit discharge procedures. The public education portfolio material are now being distributed to the public by key Public Works field staff who's positions are specialized in water quality and illicit discharge, as well as customer relations and citizen education. In addition educational material is distributed at front counter locations at City offices and informational material kiosk in City Hall.

Proposed MS4 Plan Activities

The Environmental Services Division will continue to provide the portfolios to key field staff and provide training on their contents. All Public Works field staff will continue to receive training and water quality educational guidance materials, standard operating policy and procedures, spill response and illicit discharge procedures. The portfolios and staff guidance material will be reviewed and updated on an annual basis. The topics covered by the handouts will increase over time, as needed to address various observed situations and conditions.

Measurable Goals

Public Works staff will log the impacting stormwater activities that are observed in the field. The program will be evaluated annually with field staff and revised as appropriate to enhance effectiveness. Those activities that continue to be a problem will be further evaluated to determine the best way to eliminate the behavior.

Development/Implementation Schedule

BMP PE4:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Continue to develop, review and distribute public educational portfolio material to key PW field staff each year.				
Continue to provide stormwater educational material, spill response information and SOPPs to new PW staff each year.				
Review field logs and update portfolios as necessary each year.				

BMP PE5*:* Utility Billing Inserts

Responsible Parties

Environmental Services Division and Springfield Utility Board (SUB)

BMP Description

Develop brief, informative brochures designed to educate and inform Springfield citizens about the stormwater drainage system and its operation, and measures that can be taken by citizens to help minimize pollution and its impacts on the environment.

Existing Conditions

As part of an intergovernmental agreement, SUB includes inserts into its monthly utility billing statements on a twice-yearly basis. One of these events is dedicated to billing information. The Public Works Environmental Services Division develops an informational brochure for inclusion in the other utility billing statement. The brochure varies each year, but is dedicated to issues that impact the storm and sanitary sewer systems. The inserts are usually focused on information about the City's efforts to maintain the systems and on how citizens can do their part to protect them. Frequent topics include proper handling of pet wastes, hazardous materials, and household chemicals and procedures for reporting pollution problems. SUB's billing statements are sent to approximately 30,000 businesses and households monthly throughout the entire City of Springfield, resulting in an opportunity to reach a very wide audience.

Proposed MS4 Plan Activities

The Environmental Services Division will continue to develop educational utility billing inserts that inform the public about water quality and stormwater drainage system protection.

Measurable Goals

This is an existing program that will be continued. One informational insert per year will be completed. Staff will track feedback from customer inquiries to help determine the effectiveness of the inserts.

Development/Implementation Schedule

BMP PE5:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Develop, print and distribute inserts once per year in billing statements.				

BMP PE6*:* Technical Assistance and Outreach to Targeted Businesses/Industries

Responsible Parties

Environmental Services Division

BMP Description

Make technical training and guidance materials available to businesses and industries that will benefit from understanding water quality regulations and proper stormwater management technology selection/implementation.

Existing Conditions

A variety of businesses and industries discharge stormwater or non-contact process water to the City's stormwater drainage system. In some situations, these discharges may have the potential for generating polluted runoff, sedimentation, or erosion. Technical assistance to specific industries may be required to minimize or eliminate these effects, using a wide variety of stormwater management technologies. However, many owners and employees are not aware of the requirements, or the impacts, such as temperature, that discharges from their sites may generate. Where there is some awareness of the regulations, proper installation and implementation of stormwater management technologies can be inconsistent and sometimes incorrect. Also, new and better technologies become available, but the transfer of technology to the field is frequently slow.

The City has approached the problem through periodic inspections (frequently through the wastewater program), responses to complaints by citizens or staff, or observed water quality issues detected visually or through monitoring. These typically result in contacts with the discharges and cooperative approaches to improving or resolving water quality issues. Occasionally, compliance efforts escalate beyond a cooperative effort, however, this is rarely the case. This approach is reactive, results in actions only after a polluting episode occurs, and can take substantial time to resolve.

Proposed MS4 Plan Activities

Staff will initiate contact with industries, based on EPA guidance and local experience, which may have known or historical water quality issues, or new industries that may experience water quality challenges. The purpose of these contacts is to initiate discussions concerning Springfield's water quality issues, local regulations, and State and Federal requirements in a proactive manner. Staff will assist with identifying water quality problems, helping to develop effective compliance strategies and technologies, and, where appropriate, and suggesting efficient and effective technology to protect water quality.

The advantages of this proactive approach include fewer pollution incidents resulting from inadequate or outdated stormwater management practices, reduced costs to industry because of a broader technology search capability, a positive and cooperative relationship with City staff, and a better understanding of the industry processes and challenges by staff. It also utilizes the expertise of the City's Engineering, Maintenance, and Environmental Services Divisions staff to arrive at positive outcomes for both parties.

Traditional methods of investigation will continue, including inspections, water quality monitoring, and complaint investigation. Compliance efforts, including more aggressive enforcement measures where warranted, will remain unchanged.

Measurable Goals

Staff has worked extensively with some industries to resolve stormwater or other discharge issues. This program is a refinement to achieve a more pro-active approach. Staff will identify NPDES permit holders and initiate contacts with these industries. Additional industries will be identified using published guidance and local experience. Technical resources will continue to be explored by staff, and this information will be used to assist industry to the extent feasible. The program will be evaluated periodically and annually to determine if changes or adjustments need to be made to enhance its effectiveness. Based on evaluation and feedback staff will provide training as needed. Additionally, staff will provide technical assistance/training as industries and businesses become identified and/or part of the outreach program.

Development/Implementation Schedule

BMP PE6:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Initiate one-on-one technical contacts with major industries with known water quality issues.	Continue outreach to include targeted industries included in EPA guidance.	Evaluate program effectiveness, including industry acceptance, success level, and compliance.	Adapt program as appropriate to enhance cooperation and effectiveness.	
Continue inspections, complaint response, and compliance efforts				
Based on annual evaluation and feedback, conduct training as needed and tailored to industry/business. Provide technical assistance/training as industries and businesses become identified and/or part of the outreach program.				
Annually evaluate feedback and revise training as needed.				

BMP PE7: Clean Water Storm Drain Curb Markers and Door Hangers

Responsible Parties

Environmental Services and Maintenance Divisions

BMP Description

Increase public awareness of the need to keep pollutants out of the stormwater drainage system, and educate citizens regarding the fact that stormwater is routed untreated into local rivers and streams through the use of educational messages printed on curb markers and door hangers.

Existing Conditions

Surveys have shown that public knowledge of the stormwater drainage system is low, and that many people believe that storm drains are connected to sanitary sewers or that the water is otherwise treated to eliminate pollutants. This lack of knowledge results in dumping or illicit discharges of pollutants into the stormwater drainage system, typically curbside catch basins, by otherwise well-intentioned citizens.

Marking a simple message adjacent to curb inlet catch basins or other storm drain catchment structures is a proven and highly effective way to educate the public. Springfield has a program of affixing an all-weather marker adjacent to stormwater drains, with a message stating “Dump No Wastes - Drains to (McKenzie or Willamette) River.” It also includes a hotline telephone number for additional information or to report dumping or illicit discharges (See BMP ID1).

Staff also has designed and printed paper door hangers to bring attention to the curb markers and to increase general awareness. These are hung on doors in areas concurrent with the installation of the curb inlet markers. The hangers emphasize the message of the markers, reiterating that pollution placed in the stormwater drainage system goes untreated into local streams and rivers.

Proposed MS4 Plan Activities

Throughout the permit period, markers will continue to be placed adjacent to catch basins and door hangers will be used to inform adjacent residents and/or businesses.

Measurable Goals

The locations of all curb marker placements at catch basin inlets will be recorded, as will the coverage of door hangers. By the third permit year, it is anticipated that 50% of all catch basins throughout the city will have a curb marker and door hanger placements will

be completed in associated neighborhoods. By the end of the fifth permit year, 100% of all catch basins will have a curb marker, and door hanger placements will be completed in all neighborhoods throughout the city.

Development/Implementation Schedule

BMP PE7:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Citywide implementation of Clean Water Storm Drain Curb Markers and Door Hangers.				
Curb marker installation and door hanger distribution 20% complete.	Curb marker installation and door hanger distribution 40% complete.	Curb marker installation and door hanger distribution 60% complete.	Curb marker installation and door hanger distribution 80% complete.	Curb marker installation and door hanger distribution 100% complete.

Minimum Control Measure #2: Public Involvement/Participation

Permit Requirements

The permittee must, at a minimum, comply with State, Tribal, and local public notice requirements when implementing a public involvement/participation program.

Applicable City of Springfield BMPs

Public Involvement:

PI1 -- Public Involvement/Participation

PI2 -- Water Resource Area Awareness/Facility Enhancements

Rationale

The City selected the above two BMPs to address the Public Involvement/Participation Minimum Control Measure #1 and to complement its public education efforts. PI1 details the public involvement and participation required under the NPDES program. The City has a Committee for Citizen Involvement (CCI), created by Ordinance, which provided initial review and approval of the public involvement plan included in the MS4 permit application. That plan outlined opportunities for public input into the Stormwater Plan via three open-house events, held at various stages of the Stormwater Plan development. These events included informational posters and graphic displays, with staff available to answer questions and solicit feedback. A substantial outreach effort was implemented, including mass mailings, telephone calls, newspaper advertising, internet notification, and direct contact with stakeholders, to ensure that they were aware of the public events and the opportunity to contribute feedback. Outreach was directed at the general public as well as applicable professional and environmental organizations and the development community.

Certain policies, implementation actions, and BMPs included in the Stormwater Plan may trigger requirements for additional public involvement, such as amending the Municipal Code, the Springfield Development Code, or implementing new ordinances. These processes will have a public involvement component in their own right, which will be adhered to in the normal City approval processes.

The City is working with local agencies such as, Willamalane Park and Recreation District to develop a public awareness and involvement program addressing the Springfield Mill Race, and potentially other natural or constructed water resource areas that provide water quality benefits in the city. Water resource areas consist of both natural and constructed open stormwater conveyance and/or treatment systems such as, ponds, swales, channels and streams. The program will be directed at raising awareness of the Mill Race and local waterways and their associated habitat issues, and seeking out and organizing citizens to become involved with various anticipated ongoing vegetation, habitat, and water quality restoration maintenance efforts. Components of this program may include developing

descriptive graphics and signage for special areas of the Mill Race and other publicly accessible water resource areas, such as open drainageways and constructed wetland/stormwater ponds. Springfield will work towards organizing citizen participation in enhancement efforts, periodic cleanup efforts, providing technical assistance or assisting with educational or interpretive events.

Responsible Parties

Environmental Services and Maintenance Divisions

Summary of Measurable Goals

The City will provide opportunities for public input on the stormwater management program on an annual basis in various forms, including surveys and/or public events. Additionally, the City Council will be periodically updated on the stormwater management program and efforts to meet State water quality standards. Feedback from the City Council on annual progress will guide modifications to the stormwater management program as appropriate. The City will track these activities on an annual basis. Goals for the Facility Enhancement program will include program development and implementation of the informational signage elements of the program.

Summary of Development/Implementation Schedule

<table>
<tr><th rowspan="2">BMP #</th><th colspan="5">FISCAL YEAR</th></tr>
<tr><th>FY 07-08</th><th>FY 08-09</th><th>FY 09-10</th><th>FY 10-11</th><th>July 1, 2011 to Dec 31, 2011</th></tr>
<tr><td>PI1</td><td>Implement CCI-approved public involvement plan.</td><td colspan="4">Identify and implement public involvement activities in implementing Stormwater Policies, implementation actions and BMPs, in accordance with Springfield's Citizen Involvement Program.</td></tr>
<tr><td>PI2</td><td>Initiate program development and organize participants.</td><td>Finalize Facility Enhancement program components; implement for Mill Race and other natural or stormwater water quality resource areas.</td><td colspan="3">Evaluate and update Facility Enhancement program as appropriate.</td></tr>
</table>

BMP PI1*:* Public Involvement/Participation

Responsible Parties

Environmental Services Division

BMP Description

Provide opportunities for public involvement and input in the development and implementation of the Stormwater Plan.

Existing Conditions

Public involvement and review is a component of all significant regulatory actions at the City, and is, therefore, an ongoing effort. The Planning Commission (PC), in its role as the Committee for Citizen Involvement (CCI), reviewed and approved the Public Involvement work plan and schedule for the Stormwater Plan. The Public Involvement Program was included in the City's NDPES MS4 permit application.

The Public Involvement component of the Stormwater Plan, as outlined in the City's MS4 application, included a series of three public informational meetings, using an open house format. These events were scheduled to correspond roughly with the information gathering, plan drafting, and final plan development phases of the Stormwater Plan. Outreach to citizen, civic and neighborhood groups regarding the public events was conducted through a broad effort, including direct mailings, newspaper advertising, the City's website, direct telephone contact with stakeholder groups, and electronic mailing lists. Public comments and questions were solicited at these workshops. Formal public hearings also were convened by the Planning Commission in recommending, and the CCI in adopting, the Stormwater Plan.

Proposed MS4 Plan Activities

The City will continue to follow the approved public involvement plan schedule as approved by the CCI and submitted in the MS4 permit application. The City will also involve the City Council in implementation on an ongoing basis.

Public involvement is an integral component of the City's public policy-making processes, and is established by Ordinance. Where requirements of the Stormwater Plan trigger this process, such as passing or amending ordinances, adopting plans or regulations, the City will follow its adopted public involvement processes.

Measurable Goals

The City will provide three public workshops, plus public hearing opportunities, during the Stormwater Plan development and adoption process. The comments received from these events will be reviewed and incorporated into the MS4 plan as appropriate. Staff will apprise the City Council of Stormwater Plan implementation efforts annually.

Development/Implementation Schedule

BMP PI1:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Implement CCI-approved public involvement plan.	Identify and implement public involvement activities in implementing Stormwater Policies, implementation actions and BMPs, in accordance with Springfield's Citizen Involvement Program.			

BMP PI2: Water Resource Area Awareness/Facility Enhancements

Responsible Parties

Environmental Services and Maintenance Divisions

BMP Description

Provide support and coordination for a collaborative effort to develop a Water Resource Area awareness program, involving the public in its implementation. The program will include activities for public awareness/public involvement in the planned Mill Race restoration project. Another task will include developing and deploying a series of informational graphic signboards to inform citizens of the benefits of natural and constructed water resource facilities and areas.

Existing Conditions

Springfield is engaged in a long-term eco-system restoration of its historical Mill Race and Mill Pond to improve habitat and water quality for endangered salmonids. This multi-year effort will result in an amenity that will present multiple opportunities for public involvement, from actual hands-on stream restoration work to ongoing maintenance and informational/ educational events.

Similarly, various water resource areas exist throughout the city, with most either functioning, being restored, or planned for restoration. These areas include sloughs, natural and constructed ponds and channels, and wetlands/riparian areas. These areas will benefit from increased public awareness, and are a good fit for incorporating community participation in both awareness and “hands-on” assistance. The purposes of this effort are to educate, foster stewardship recruitment efforts, and provide increased awareness, which will, in turn, lead to improved habitat and water quality.

Proposed MS4 Plan Activities

The City is working with local agencies such as, Willamalane Park and Recreation District to develop Water Resources Awareness programs. Components of the program include developing the groundwork to foster education and stewardship of the soon-to-be-renovated Mill Race. The Mill Race program will initially be developed conceptually and implemented when the renovation work is started.

This program will also identify other water resource areas throughout the city, at locations where public access is high, and develop a series of informational signs or posters. These will describe the water resource and explain the benefits it provides to the environment, in an “all weather” graphic and textual medium. Sign placement will be based on a priority

basis, factoring in the resource, its visibility, and available staffing and funding. Ultimately, the signage is intended to elicit public behavior that is protective of the stormwater drainage system.

Measurable Goals

The City will develop its public outreach activities associated with the Mill Race and Mill Pond, and other resource areas, including development of a Facility Enhancement outreach program and a water resource awareness signage project. Scheduling of these efforts is summarized below.

Development/Implementation Schedule

BMP PI2:

FY 07-08	FY O8-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Initiate program development and organize participants.	Finalize Facility Enhancement program components; implement for Mill Race and other natural or stormwater water quality resource areas.	Evaluate and update Facility Enhancement program as appropriate.		

Minimum Control Measure #3: Illicit Discharges Detection and Elimination

Permit Requirements

The permittee must:

i. Develop, implement and enforce a program to detect and eliminate illicit discharges [as defined in 40 CFR §122.26(b)(2)] into the permittee's small MS4;

ii. Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States and/or the State of Oregon that receive discharges from those outfalls;

iii. To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the permittee's storm sewer system and implement appropriate enforcement procedures and actions. Possible sanctions include non-monetary penalties (such as stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.

iv. Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the permittee's system;

v. Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and

vi. Address the following categories of non-storm water discharges or flows (illicit discharges) if the permittee identifies them as substantial contributors of pollutants to the permittee's small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. Discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as substantial sources of pollutants to waters of the United States and the State of Oregon.

vii. The permittee must also develop a list of other similar occasional incidental non-storm water discharges (e.g. non-commercial or charity car washes) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected (based on information available to the permittees) to be substantial sources of pollutants to the MS4, either because of the nature of the discharges or conditions the permittee have established for allowing these discharges to the permittee's MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive water bodies, BMPs on the wash water). The permittee must document in the permittee's storm water management program plan any local controls or conditions placed on the discharges. The permittee must include a provision prohibiting any individual non-storm water discharge that is determined to be contributing substantial amounts of pollutants to the permittee's MS4.

viii. The permittee must develop a process to respond to and document complaints relating to illicit discharges.

Applicable City of Springfield BMPs

Illicit Discharge:

ID1 -- Illicit Discharges Reporting Hotline and Tracking System

ID2 -- Illicit Discharges Response and Enforcement

ID3 -- Outfall Inventory and Mapping

ID4 -- Water Quality Monitoring for Illicit Discharges

ID5 -- Citywide Illicit Discharge Detection and Elimination

ID6 -- Non-Stormwater Discharge Assessment

Rationale

Springfield selected the above six BMPs to address this requirement. BMPs ID1 and ID2 describe the City's processes that respond to and document complaints regarding water quality, including illicit discharges, in fulfillment of requirement viii above. These two BMPs include a hotline for complaints and protocols for the most efficient and effective follow-up actions in response to calls. BMP ID3 Outfall Inventory and Mapping is a project the City has already begun, and will complete and maintain during the permit period in accordance with requirement ii above. BMP ID4 includes the monitoring program conducted by the City to identify and track the sources of illicit discharges, which will support compliance with requirement iv above. The City's program to prohibit and enforce elimination of illicit discharges is described under BMP ID2, and addresses requirements i and iii above. Requirement v to inform the public regarding the hazards of illicit discharges is implemented through several of the public education BMPs, especially BMP PE7 -- Clean Water Storm Drain Curb Markers and Door Hangers. Activities conducted under BMP ID5, when combined with BMP ID4, will fully meet requirement iv above. Requirements vi and vii, addressing non-stormwater discharges, will require that the City assess these discharges, and determine if they adversely impact the stormwater system. If they are found to cause an adverse impact, appropriate management practices or regulations will be developed and implemented. This assessment and appropriate follow up will be conducted as BMP ID6.

Responsible Parties

The Environmental Services, Engineering, and Maintenance Divisions are responsible for the development and implementation of the illicit discharges detection and elimination program.

Summary of Measurable Goals

The measurable goals of the illicit discharges program will include:

- Tracking the number and documenting the type of calls received on the stormwater hotline and the actions taken in response each year.

- Documenting an annual review of outfall maps to ensure they are up-to-date.

- Conducting and documenting monitoring at all of the significant outfalls over the course of the five-year permit period, and documenting illicit discharge detection actions taken as warranted.

- Tracking the number of illicit discharges that are encountered and tracking enforcement procedures that are conducted.

- Tracking the number of commercial/industrial uses assessed for possible illicit discharges and tracking resolution of illicit discharges identified.

- Completing an assessment of non-stormwater discharges as required by Minimum Control Measure #3, requirements vi and vii, along with implementing local controls where identified as needed.

Summary of Development/Implementation Schedule

BMP #	**PERMIT YEAR**				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
ID1	Operate the hotline, publish and promote the phone number, and document calls received each year.				
	No scheduled action.	No scheduled action.	Evaluate program effectiveness	Implement program improvements as warranted.	
ID2	Implement protocols for responding to complaints annually, and maintaining complaint data base.				
	Program evaluation year.	Program review.	Program evaluation year.	Program review.	Program evaluation year.
		Review/ revise Standard Operating Procedures.		Review/ revise Standard Operating Procedures.	

BMP #	PERMIT YEAR				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
ID2	Implement amended Codes and Track success.	Develop/ adopt enforcement guide and penalty matrix.	Implement enforcement guide and penalty matrix.	Review enforcement guide and penalty matrix.	Update enforcement guide and penalty matrix.
	UTA developed and completed but not signed by Lane County.	Develop modifications to Urban Transition Agreement as needed.	Track effectiveness of enforcement program in urban transition area.	Review effectiveness of Urban Transition Agreement.	
		Conduct staff training and maintain updated enforcement tool kit.			

<table>
<tr><th>BMP #</th><th colspan="5">PERMIT YEAR</th></tr>
<tr><th></th><th>FY 07-08</th><th>FY 08-09</th><th>FY 09-10</th><th>FY 10-11</th><th>July 1, 2011
to
Dec 31, 2011</th></tr>
<tr><td rowspan="3">ID3</td><td colspan="5">Conduct yearly outfall map updates.</td></tr>
<tr><td rowspan="2">Complete outfall mapping for City and urbanizable area.</td><td colspan="4">Maintain outfall mapping.</td></tr>
<tr><td>No scheduled actions.</td><td>No scheduled actions.</td><td>Conduct follow-up inspection of outfalls.</td><td>No scheduled actions.</td></tr>
<tr><td rowspan="3">ID4</td><td colspan="5">Conduct water quality monitoring of all significant outfalls to drainageways.</td></tr>
<tr><td colspan="5">Evaluate monitoring results to identify pollutants of concern and to support identification of illicit discharges.</td></tr>
<tr><td colspan="5">Where deemed necessary, conduct follow-up investigations to identify and eliminate the source of illicit discharges. Where chronic substandard water quality is found, use data to prioritize public outreach and modify BMPs as appropriate.</td></tr>
<tr><td rowspan="4">ID5</td><td colspan="5">Ongoing incident response and tracking activities.</td></tr>
<tr><td colspan="5">Ongoing technical assistance to business/industry.</td></tr>
<tr><td>Develop staffing proposal.</td><td rowspan="2">Staffing provided and program developed.</td><td colspan="3">Program implemented and illicit discharge detection and elimination actions tracked.</td></tr>
<tr><td></td><td>No scheduled action.</td><td>Program effectiveness evaluated.</td><td>Program improve-ments implemented as warranted.</td></tr>
<tr><td rowspan="2">ID6</td><td rowspan="2">No scheduled actions.</td><td colspan="4">Address activities in response to actual pollutants observed.</td></tr>
<tr><td>No scheduled actions.</td><td>Evaluate avail-able data and appropriate local controls.</td><td>Develop local assess-ment and appropriate local controls.</td><td>Implement local controls as needed.</td></tr>
</table>

BMP ID1: Illicit Discharges Reporting Hotline and Tracking System

Responsible Parties

Environmental Services Division

BMP Description

Develop and implement a designated hotline for the receipt of complaints/reports of illicit discharges or spills, and maintain a tracking system documenting complaints/incidents and follow-up actions taken.

Existing Conditions

City staff routinely receive calls from citizens concerning illicit discharges, spills, or other stormwater drainage system-related problems. These calls have traditionally been received by either Maintenance or Environmental Services staff and are processed as appropriate. Without a designated phone line for the receipt of these complaints, citizens sometimes encountered difficulties identifying the appropriate individual, department or division to contact. Calls sometimes were transferred to inappropriate individuals, resulting in delays, frustration, and lack of appropriate follow-up actions.

As a result, in 2000, a telephone number was designated by the City as a “stormwater hotline,” and published in the phone book. By establishing this phone number, citizens are now able to quickly and easily access the appropriate person within the City ensuring a more timely and adequate response. The phone number may be used by citizens for asking questions, reporting spills, reporting illicit discharges and/or accessing general stormwater information. This number is included on informational brochures, such as those available at public events and handed out by staff for “educational” opportunities, and is displayed on catch basin labels. The hotline is answered by the Water Resources Program staff who are qualified to answer most stormwater-related questions and provide appropriate staff responses to resolve most issues. The Water Resources Program staff also route calls to other City staff for handling when it’s warranted. Each call is documented in a database along with all follow-up actions taken to resolve the incident.

Proposed MS4 Plan Activities

The Stormwater Hotline is currently in place and will continue to be operated indefinitely. The number for the hotline will continue to be provided on informational brochures. This service, currently operational during normal City business hours, will be evaluated in FY 05-06 to determine whether 24-hour reporting and response capability is warranted.

Measurable Goals

Each year the number of calls received and the follow-up actions will be tracked. Information regarding the complaint will also be documented in databases maintained by the Environmental Services and Maintenance Divisions. (These databases also are referred to in BMP ID2.)

Development/Implementation Schedule

BMP ID1:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Operate the hotline, publish and promote the phone number and document calls received each year.				
No scheduled action.	No scheduled action.	Evaluate program effectiveness	Implement program improvements as warranted.	

BMP ID2*:* Illicit Discharges Response and Enforcement

Responsible Parties

Environmental Services, Engineering, and Maintenance Divisions, and Office of the City Attorney

BMP Description

This BMP also includes the development and implementation of protocols that the City will use in order to respond to complaints/reports of illicit discharges or spills in a most efficient and effective manner.

Existing Conditions

Procedures:

Services provided by the City have traditionally included response to nuisance complaints of various sorts by members of the public. In the past, however, the City's ability to respond to and resolve complaints involving spills or dumping into the streets, public rights-of-way, or stormwater drains connected to the City's storm sewer system has been limited. Over the last three years, however, the City has developed increased ability to respond to stormwater polluting incidents with trained staff, necessary equipment, and improved enforcement authority.

An important aspect of the City's overall program has been to coordinate and augment the City's complaint response among the Public Works, Police, and Fire and Life Safety Departments. In developing the current program, Environmental Services staff assessed the response process that was being used by the City's various departments for spills, dumping, and other environmental incidents. The evaluation revealed that past practices were not well coordinated, were inconsistent, and led to delays or failures in some cases, and double-staffing in others. As a result, Standard Operating Procedures have been developed to clarify response protocols and establish consistent communication and enforcement procedures.

The goals of the Standard Operating Procedures for response and enforcement are to:

(1) respond quickly and efficiently to citizens' pollution incident complaints and reports of dumping or spills;
(2) ensure that all incidents are handled by appropriately trained staff or contractors;
(3) respond to both the citizens who report incidents, and those who are responsible for the incidents;
(4) ensure that the significant aspects of all incidents are well documented; and
(5) avoid "double staffing" of incidents through efficient coordination of appropriate staff.

The Standard Operating Procedures have been agreed to by all affected Public Works Divisions.

The Environmental Services and Maintenance Divisions maintain and share databases that track incidents and follow-up actions taken to resolve them.

Enforcement:

The City has had limited coordinated enforcement efforts and, in the past, City staff have had varying degrees of awareness and understanding about enforcement authority available to them to resolve illegal activities that threaten the stormwater drainage system and receiving streams. In 2002-2003, staff and legal counsel reviewed Federal, State, and local laws and Codes directly enforceable by City staff and legal counsel regarding illegal erosion, land alteration activities, dumping, and other polluting events. As a result, amendments to the Municipal Code provide broad ability for the City to assess and determine when actions negatively impacting any elements of the stormwater drainage system are unlawful and require abatement. The Code also provides authority for the City to take measures appropriate and necessary to abate the situation.

Section 8 of the Municipal Code, and various sections of the Springfield Development Code, which are enforceable within the City's urbanizable area, supplement the nuisance prohibitions of the Code in enabling the City to protect the stormwater drainage system and enforce against those who cause damage to it.

The City has not completed all steps necessary to have a fully operational and effective enforcement program. The most significant gaps in Springfield's program include:

(1) lack of coordinated agreements with Lane County to achieve efficient resolution of Code violations;
(2) an enforcement guide has not yet been developed to establish clear and objective procedures for applying penalties; and
(3) training of all staff in appropriate enforcement protocols has yet to be completed.

<u>Proposed MS4 Plan Activities</u>

Regarding incident response, the Standard Operating Procedures are presently in effect, and responses are currently coordinated among appropriate City divisions. The incident response protocols will continue to be followed throughout each year of the permit period, and performance improvement evaluations will occur if and when evaluations show the protocols are not fully effective or efficient.

Regarding the City's enforcement program, the City intends to complete the following activities within the permit period:

(1) develop an enforcement guide and penalty matrix;
(2) initiate amendments to the Urban Transition Agreement with Lane County to improve enforcement in the urbanizable area; and

(3) provide staff training and tool kits.

Measurable Goals

Periodic check-ins on an every-other-year basis with Environmental Services and Maintenance Division staff will be conducted to monitor and improve the effectiveness of the incident response program.

Development/Implementation Schedule

BMP ID2:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Implement protocols for responding to complaints annually, and maintaining complaint database.				
Program evaluation year.	Program review.	Program evaluation year.	Program review	Program evaluation year.
	Review/ revise Standard Operating Procedures.		Review/ revise Standard Operating Procedures.	
Implement amended Codes and track success.	Develop/ adopt enforcement guide and penalty matrix.	Implement enforcement guide and penalty matrix.	Review enforcement guide and penalty matrix.	Update enforcement guide and penalty matrix.
UTA developed and completed but not signed by Lane County.	Develop modifications to Urban Transition Agreement as needed.	Track effectiveness of enforcement program in urban transition area.	Review effectiveness of Urban Transition Agreement.	
	Conduct staff training and maintain updated enforcement tool kit.			

BMP ID3*:* Outfall Inventory and Mapping

Responsible Parties

Environmental Services Division

BMP Description

Inventory and map outfalls to the stormwater drainage system and develop an outfall database. The outfall map and database will be used for detection and elimination of illicit discharges as described in BMPs ID4 and ID5.

Existing Conditions

An initial task to locating and eliminating illicit discharges is surveying, inventorying, and mapping all outfalls to the stormwater drainage system. An outfall map, in conjunction with systematic monitoring and sampling, forms the basis for further investigations. Springfield initiated a stormwater drainage system outfall inventory in 2000, which involved a physical inspection of the entire open channel drainage system. At the same time, staff inventoried and mapped all of the DEQ-permitted industrial source outfalls within the City. The updated outfall map (included in the City's Geographic Information System) and outfall database have been completed. The inventory database includes information regarding the precise location of each outfall, its source, and additional relevant information such as flow rate, observed/potential pollution problems, outfall condition, and the owner's awareness of the outfall. The physical inspection also resulted in locating over 200 additional unmapped and previously unknown outfalls to the stormwater drainage system.

Proposed MS4 Plan Activities

The outfall mapping effort will be ongoing as new development and redevelopment result in the construction of new outfalls to the stormwater drainage system. Ongoing efforts will include, at a minimum, yearly map updates from "as-built" plans, as well as physical inspections every four years of new or redeveloped areas of the system. Periodic additional updates to capture outfalls from new developments or newly permitted industrial dischargers will be conducted as needed.

Measurable Goals

Conduct GIS map updates at least annually and conduct physical re-inspections of new or redeveloped areas every four years.

Development/Implementation Schedule

BMP ID3:

<table>
<tr><th>FY 07-08</th><th>FY 08-09</th><th>FY 09-10</th><th>FY 10-11</th><th>July 1, 2011
to
Dec 31, 2011</th></tr>
<tr><td colspan="5">Conduct yearly outfall map updates.</td></tr>
<tr><td rowspan="2">Complete outfall mapping for City and urbanizable area.</td><td colspan="4">Maintain outfall mapping</td></tr>
<tr><td>No scheduled actions.</td><td>No scheduled actions.</td><td>Conduct a follow-up inspection of outfalls.</td><td>No scheduled actions.</td></tr>
</table>

BMP ID4*:* Water Quality Monitoring for Illicit Discharges

Responsible Parties

Environmental Services Division

BMP Description

Conduct water quality monitoring of the City's stormwater drainage system in an attempt to establish baseline water quality data, observe trends, document effectiveness of BMPs, and identify illicit discharges.

Existing Conditions

In 2001, Environmental Services Division staff developed and initiated implementation of an ongoing, albeit limited, stormwater monitoring program to document and assess stormwater quality in drainageways throughout the city. As mentioned above, the purpose of the monitoring program is to establish baseline data, track trends and identify illicit discharges. Over time, the monitoring will support adaptive management strategies to improve the City's stormwater quality improvement efforts. The monitoring is conducted on a subbasin by subbasin basis.

The program employs submersible data logging monitors that measure water quality parameters such as, pH, temperature, dissolved oxygen, and conductivity on a continuous basis (i.e., every 15 minutes) for later download to a computer. These units are placed one upstream, and the other downstream of significant outfalls to a drainageway, and at other strategic locations. Data is recorded for a period then the units are serviced, data downloaded, and the units re-deployed downstream to the next significant location on the monitored system. As the equipment is not capable of measuring all parameters desired for analysis, grab samples are also collected for analysis in the laboratory when and where warranted.

A quality assurance/quality control (QA/QC) program has been developed and implemented to ensure the accuracy of all the data collected. Because the City has limited equipment and resources, the monitors are rotated throughout the city and data is only collected periodically in any one location. Therefore, this program in and of itself does not capture water quality or illicit discharges continuously throughout the system. To date, one full rotation of the equipment throughout the City's major outfall locations has been completed and a second comprehensive monitoring round is anticipated.

Proposed MS4 Plan Activities

The monitoring program described above will be ongoing throughout the permit period. Where evidence of water quality problems is identified, the City will conduct further investigations and analyses as needed to identify and abate the sources of pollution.

Where evidence of illicit discharges is observed through sampling results, compliance efforts will be made, including locating the source of the discharge and responsible party, and eliminating the source (see BMP ID2 for Enforcement Program). When monitoring of all subbasins has been completed, the equipment will be installed where substandard water quality is chronic and not caused by identifiable violations. Efforts can then be made to locate and eliminate the source(s) of that contamination through educational and cooperative efforts.

Measurable Goals

The monitoring program will be conducted at each of the significant outfalls to the drainageways over the course of the five-year permit period. Results from the monitoring will be evaluated on an ongoing basis.

Development/Implementation Schedule

BMP ID4:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Conduct water quality monitoring of all significant outfalls to drainageways.				
Evaluate monitoring results to identify pollutants of concern and to support identification of illicit discharges.				
Where deemed necessary, conduct follow-up investigations to identify and eliminate the source of illicit discharges. Where chronic substandard water quality is found, use data to prioritize public outreach and modify BMPs as appropriate.				

BMP ID5*:* Citywide Illicit Discharge Detection and Elimination

Responsible Parties

Environmental Services and Maintenance Divisions

BMP Description

This BMP involves a Citywide assessment of known discharges to the stormwater drainage system, and of businesses/industries with high potential for contributing pollutant-bearing non-stormwater discharges to the stormwater drainage system. A significant amount of guidance and case study information has been published by the EPA regarding how to efficiently and cost-effectively conduct this assessment. The City's outfall inventory and mapping information (see BMP ID3), along with the water quality monitoring data (see BMP ID4), will provide a starting point to identify potential "hot spots" in the system for follow-up detection evaluations. Illicit discharges identified through this evaluation will be eliminated through outreach and technical assistance to the discharges, and, if necessary, enforcement activities.

Phase two of this BMP will involve prioritization of businesses/industries throughout the city for outreach and assessment of discharges to the stormwater drainage system. The prioritization will be based on the EPA guidance and case study conclusions regarding the most likely sources of illicit discharges. An assessment program will be implemented systematically to identify illicit discharges throughout the city. Educational outreach, technical assistance, and enforcement activities will be conducted as needed to eliminate illicit discharges.

Existing Conditions

The City typically only identifies illicit discharges based on response activities to pollution complaints/incidents, and through inspections conducted by Industrial Pretreatment Program staff. City staff have addressed these discharges in several ways, including:

(1) providing educational information about the prohibition on discharging pollutants to the stormwater drainage system;
(2) providing technical assistance to businesses/industries to help locate the sources of illicit discharges and to identify BMPs available to resolve them;
(3) assisting businesses/industries in gaining alternative connections to the sanitary sewer system as appropriate; and
(4) conducting enforcement activities as needed to address noncompliance. No program or staffing currently exists to compile and analyze water quality data for the purposes of detecting illicit discharges or to conduct a system wide detection and elimination program.

Proposed MS4 Plan Activities

During the permit period, the City will conduct the following activities to comply with the illicit discharge detection and elimination requirements. The City will continue to respond to reports of pollution in the stormwater drainage system and will endeavor to identify and eliminate the sources through educational outreach, technical assistance, and enforcement actions as needed. The City also will dedicate and train staff to develop and implement system wide illicit discharge detection and elimination activities.

Measurable Goals

Through the City's incident reporting and tracking system, illicit discharge incidents and follow-up actions taken to abate them will be tracked over time. When the City is successful in dedicating staff directly to this program, an evaluation of the water quality monitoring data, the outfall inventory and mapping, and the industrial discharge permits will be completed and follow-up detection and elimination activities will be conducted. Finally, the program to evaluate commercial/industrial discharges to the stormwater drainage system citywide will be developed and implemented.

Development/Implementation Schedule

BMP ID5:

<table>
<tr><th>FY 07-08</th><th>FY 08-09</th><th>FY 09-10</th><th>FY 10-11</th><th>July 1, 2011
to
Dec 31, 2011</th></tr>
<tr><td colspan="5">Ongoing incident response and tracking activities.</td></tr>
<tr><td colspan="5">Ongoing technical assistance to business/industry.</td></tr>
<tr><td rowspan="2">Develop staffing proposal.</td><td rowspan="2">Staffing provided and program developed.</td><td colspan="3">Program implemented and illicit discharge detection and elimination actions tracked.</td></tr>
<tr><td>No scheduled actions.</td><td>Program effectiveness evaluated.</td><td>Program improvements implemented as warranted.</td></tr>
</table>

BMP ID6*:* Non-Stormwater Discharge Assessment

Responsible Parties

Environmental Services Division

BMP Description

This BMP will be developed to address the list of non-stormwater discharges or flows listed in Minimum Control Measure #3, requirements vi and vii. (See pp. 68 for complete list.)

Existing Conditions

The City's Municipal Code contains provisions prohibiting discharges to the stormwater drainage system that are deleterious, which includes the ability to prohibit or implement local controls on activities specifically listed in the permit requirements described above. To date, the only listed activities the City has specifically addressed are charity carwashes. The City requires permits for these events, and conditions the permits as needed to prevent excessive amounts of pollutants from entering the stormwater drainage system.

MS4 Plan Activities

Over the course of the permit period, the City will begin to address and evaluate the non-stormwater discharges as outlined in requirements vi and vii (noted above). This activity will begin by evaluating the incident response and tracking base and water quality data to determine whether a category of activities is contributing pollutants and needs to be addressed. Staff also will continue to track available data and case studies that provide conclusive information regarding the activities described in requirements vi and vii. Finally, the City will complete limited spot inspections for scheduled or permitted discharges, conduct a local assessment and, if necessary, develop local pollutant controls as needed.

Measurable Goals

Within the scope of proposed water quality monitoring, inspections, and follow-up investigations, findings of measurable pollutants from sources identified in requirements vi and vii will be tracked and reported. When a comprehensive local assessment is completed, the City will make a determination regarding these discharges, and, if needed, develop local controls appropriate to identified pollutant sources and to track implementation.

Development/Implementation Schedule

BMP ID6:

<table>
<tr><th>FY 07-08</th><th>FY 08-09</th><th>FY 09-10</th><th>FY 10-11</th><th>July 1, 2011
to
Dec 31, 2011</th></tr>
<tr><td rowspan="2">No scheduled actions.</td><td colspan="4">Address activities in response to actual pollutants observed.</td></tr>
<tr><td>No scheduled actions.</td><td>Evaluate available data and appropriate local controls.</td><td>Develop local assessment and appropriate local controls.</td><td>Implement local controls as needed.</td></tr>
</table>

Minimum Control Measure #4: Construction Site Stormwater Runoff Control

Permit Requirements

The permittee must develop, implement, and enforce a program to reduce pollutants in any stormwater runoff to the permittee's small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the permittee's program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the Department [DEQ] waives requirements for stormwater discharges associated with small construction activity in accordance with 40 CFR §122.26(b)(15)(i), the permittee is not required to develop, implement, or enforce a program to reduce pollutant discharges from such sites. The permittee's program must include the development and implementation of, at a minimum:

i. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
ii. Requirements for construction site operators to implement appropriate erosion and sediment control Best Management Practices;
iii. Requirements for construction site operators to prevent or control waste that may cause adverse impacts to water quality such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site;
iv. Procedures for site plan review and land division that incorporate measures to prevent or control potential water quality impacts;
v. Procedures for receipt and consideration of information submitted by the public; and
vi. Procedures for site inspection and enforcement of control measures.

Applicable City of Springfield BMPs

Construction Site Waste:

CSW1 -- Erosion and Sediment Control Regulations

CSW2 -- City Staff Erosion Control Training

CSW3 -- Land Drainage Alteration Permit (LDAP) Program

CSW4 -- Inspections and Enforcement

Rationale

The City of Springfield selected the above BMPs to address each component of the construction site runoff control requirements. Regulatory authority for implementation and enforcement of Springfield's erosion and sediment control program is provided in both the

Development and Municipal Codes. These Codes provide a framework for oversight of construction that requires erosion and sediment control measures during construction or redevelopment of sites disturbing greater than 50 cubic yards of soil. Specific requirements for construction site operators are addressed during the Site Plan Review and Land Division review processes and are included in the City's Engineering Design Standards and Procedures Manual, which is referenced in the Springfield Development Code. Land Drainage and Alteration Permits (LDAP) require the development of erosion and sediment control plans. Additionally, the nuisance prohibitions section of the Municipal Code provide authority to regulate construction sites to prevent or control wastes that can adversely impact water quality. Taken together, these adopted Codes and programs fulfill requirements i-iv described above. Training of City staff to recognize and correct erosion problems on construction sites and to enforce the provisions of the City's adopted ordinances is a critical component of the stormwater management program, and this is being addressed through the development of specific, dedicated staff for permitting, inspections, and enforcement.

Responsible Parties

The City's Planning Division maintains the Springfield Development Code and coordinates the Site Plan and Land Division Review process. The Community Services Division and Public Works Department staff are responsible for implementation and inspection of approved land alteration and development projects for erosion and sediment control, as well as construction site runoff controls. Enforcement of the City's Codes is conducted in coordination with the Office of the City Attorney.

Summary of Measurable Goals

Staff will review the Municipal Code and Springfield Development Code provisions related to erosion control and construction site runoff within the first three years of the permit. The measurement of success of the program will be based on tracking of compliance and avoidance of impacts to water quality from land alteration and construction.

Summary of Development/Implementation Schedule

BMP#	PERMIT YEAR				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
CSW1	Implement existing Municipal Code and Springfield Development Code provisions on an ongoing basis.				
	Continue Code Review for erosion and construction site runoff control effectiveness	Prepare and adopt ordinances as needed to improve effectiveness of Codes and permitting programs.	Track permit compliance and impacts to stormwater.	Program review and assessment.	
	Review City Codes and Ordinances on an ongoing basis; revise as appropriate				
CSW2	Conduct staff training on an ongoing basis; update as needed.				
	Evaluate the effectiveness of the training and update/improve as warranted.				
CSW3	Hire two dedicated LDAP staff.	Evaluate Municipal Code and develop amendments as needed to achieve compliance with CWA and ESA.		No schedule d action.	No schedule d action.
	Implement the LDAP program on an ongoing basis.				
	Track LDAP compliance and impacts to water quality on an annual basis.				
	Conduct LDAP program evaluations on an annual basis and address inadequacies as appropriate.				
CSW4	Conduct inspections on an ongoing basis.				
	Implement existing Code authority on an ongoing basis.				
	Review and amend the Code as appropriate.				

BMP CSW1: Erosion and Sediment Control Regulations

Responsible Parties

Environmental Services, Community Services, Planning, Engineering, and Maintenance Divisions

BMP Description

This BMP is intended to provide for maintenance, review and augmentation of City Ordinances and Codes adopted to enable administration and enforcement of programs aimed at reducing and/or eliminating erosion and sedimentation associated with both public and private construction or other land alteration, as well as construction site waste. This BMP is intended to fulfill requirements i-iii of this Minimum Control Measure described on page 68.

Existing Conditions

Regulatory authority for implementation and enforcement of Springfield's erosion and sediment control program is provided in both the Development and Municipal Codes. These Codes provide a framework for oversight of construction that requires erosion and sediment control measures during construction or redevelopment of sites disturbing greater than 50 cubic yards of soil. Specific requirements for construction site operators are addressed during the Site Plan Review and subdivision review processes.

Provisions enabling inspections and enforcement of required erosion and sediment control BMP measures and environmental compliance of construction activities are included in the Municipal Code. Violations are enforced through stop work orders and/or citations and civil penalties. As well, the City can obtain injunctive relief or has the ability to take remedial actions deemed necessary through the Municipal Court.

Proposed MS4 Plan Activities

The City will continue to implement existing regulations on an ongoing basis. The City will also review the effectiveness of the existing Codes and Ordinances, and will amend the Municipal Code as appropriate.

Measurable Goals

The City will track construction and other land alteration site inspections and permit or Code violations. The information will be reviewed on an annual basis to evaluate the effectiveness of the City's regulations and to develop amendments necessary to fully comply with the permit requirements for this Minimum Control Measure noted previously.

Development/Implementation Schedule

BMP CSW1:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Implement existing Municipal Code and Springfield Development Code provisions on an ongoing basis.				
Continue Code Review for erosion and construction site runoff control effectiveness.	Prepare and adopt ordinances as needed to improve effectiveness of Codes and permitting programs.	Track permit compliance and impacts to stormwater.		Program review and assessment.
Review City Codes and Ordinances on an ongoing basis; revise as appropriate.				

BMP CSW2: City Staff Erosion Control Training

Responsible Parties

Public Works Department

BMP Description

This BMP entails provision of adequate and ongoing erosion control training opportunities so staff can educate and inform contractors and developers; fairly and knowledgeably enforce the City's Codes and regulations; and conduct their work in a responsible manner. This BMP is intended to partially fulfill requirement vi of this Minimum Control Measure.

Existing Conditions

Erosion and sedimentation are significant water pollution issues. Erosion carries contamination, such as oil and grease, and toxic heavy metals that are present in the soil, and discharges these pollutants into the stormwater drainage system. Sediment that is discharged into waterways impacts wildlife habitat and critical stormwater infrastructure, such as pipes, detention ponds, and open waterways, and removes valuable topsoil along stream banks. Finally, erosion problems in Springfield have caused land instability drainage problems, and have endangered the safety of property.

Erosion control training for City staff is important to help staff recognize potential erosion problems, as well as avoid creating those problems during the course of their work. Training is provided internally on specific programs or issues, and is part of the ongoing employee development program on a routine basis for new and experienced staff. The goal is to ensure that staff are adequately informed of the regulations, and have the tools, supplies, and knowledge to avoid creating unnecessary soil erosion. It also supports staff in constructively educating citizens and the development community with regard to appropriate and required erosion control measures. Educational and outreach documents are readily available and training is provided to enable staff to quickly and easily obtain information on proper erosion control measures.

Proposed MS4 Plan Activities

The Public Works Department is in the process of increasing staff resources available to implement the Land and Drainage Alteration Program (LDAP), which is largely where ongoing approval and monitoring of erosion and sediment control measures will occur. However, various staff throughout the Public Works and Development Services Departments need to be trained to recognize conditions encountered in the field that warrant appropriate follow-up actions by the City, ranging from educating and gaining cooperative remediation from contractors in the field, to pursuing enforcement actions.

During the permit period, the Public Works and Development Services Departments will collaborate to plan and provide training programs tailored to the needs of Springfield. The trainings will be evaluated and revised as needed to meet staff needs.

Measurable Goals

The goal of this BMP will be to provide a comprehensive erosion control training at least once annually to ensure that new staff receive adequate training and that improvements in the City's inspection, enforcement, and technical assistance activities are implemented consistently throughout the organization.

Development/Implementation Schedule

BMP CSW2:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Conduct staff training on an ongoing basis; update as needed.				
Evaluate the effectiveness of the training and update/improve as warranted.				

BMP CSW3: Land Drainage Alteration Permit (LDAP) Program

Responsible Parties

Public Works and Development Services Departments

BMP Description

This BMP provides for ongoing implementation of a permitting program requiring erosion and sediment control measures for construction and other land alteration activities. The program includes inspections of site work and enforcement of City regulations to ensure that erosion and sediment control measures are protective of property and water quality. This BMP is intended to fulfill all requirements of Minimum Control Measure #4 - Construction Site Stormwater Runoff Control.

Existing Conditions

Land Drainage Alteration Permits (LDAPs) have been required for construction activities that disturb in excess of 50 cubic yards of material (soil), or significantly change or impact the drainage characteristics of a site for many years, under provision of Municipal Code Section 8 - Grading. These permits require Erosion and Sedimentation Control Plans (ESCP) showing erosion control measures and work practices that will be implemented at the site. The current LDAP program was developed and implemented as a coordinated effort between the Development Services and Public Works Departments.

LDAPs have traditionally been issued by the Development Services Department after the applications and ESCPs are evaluated by qualified Public Works Department staff. Inspections and enforcement has been a collaborative effort among Public Works and Development Services staff, often depending on who observes compliance problems in the field. The lack of staff resources generally, along with adequate training and clear delineation of responsibilities, has frequently led to inadequate follow up by City staff on LDAPs that have been issued.

In an effort to improve LDAP implementation, a guidance document or “LDAP Tool Kit” was prepared in 2002 for distribution to appropriate staff. The kit outlines the policy and approach of the LDAP program and is intended to familiarize staff with the available regulations to address these situations and provide consistent, effective enforcement of the City’s LDAP program. The goal of the kit is to:

(1) increase awareness among staff;
(2) provide a consistent, constructive approach for use by field staff; and
(3) promote constructive interactions with the construction and development community.

Even with this tool kit, staffing levels have been inadequate to maintain an effective LDAP program. As a result, required erosion and sediment control measures, as well as other permit requirements to protect land stability and water quality, are often omitted or substandard. Slides, sedimentation and water quality deterioration have resulted from the shortcomings of the City's program.

City Council authorized the addition of two full-time staff dedicated to the implementation and enforcement of the LDAP program.

Proposed MS4 Plan Activities

The LDAP program will continue to be implemented, within the fiscal constraints of the City, on an ongoing basis. The Engineering Division hired two staff who will be dedicated exclusively to the LDAP program. The increase in staffing will improve the City's ability to ensure that permit conditions are met and that negative impacts to land and water quality are avoided. During the permit period, Public Works and Development Services Department staff will undertake a coordinated effort to review and revise the current Municipal Code Grading Section to ensure it is adequate to achieve compliance with Clean Water Act and Endangered Species Act requirements.

Measurable Goals

A database is used to record LDAPs and track violations and enforcement activities. This information will be shared among staff and analyzed annually to determine if the program is achieving compliance across the volume of permits issued annually, and adequately reducing erosion from construction and other land alteration activities.

Development/Implementation Schedule

BMP CSW3:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Hire two dedicated LDAP staff.	Evaluate Municipal Code and develop amendments as needed to achieve compliance with CWA and ESA.		No scheduled action.	No scheduled action.
Implement the LDAP program on an ongoing basis.				
Track LDAP compliance and impacts to water quality on an annual basis.				
Conduct LDAP program evaluations on an annual basis and address inadequacies as appropriate.				

BMP CSW4: Inspections and Enforcement

Responsible Parties

Environmental Services, Community Services, Engineering, and Maintenance Divisions and Development Services Department

BMP Description

Develop and implement Code authority to prohibit and enforce the dumping of nuisance waste associated with construction sites.

Existing Conditions

The City developed Code authority in the Springfield Municipal Code (Section 5.002) that prohibits the disposal of nuisance waste on public or private property, including stormwater drainageways. The Municipal Code includes provisions for nuisance management at all public and private properties including construction sites. The Code strictly prohibits depositing of wastes including, but not limited to: sewage, industrial material, hazardous waste, trash, debris, and used building materials.

Enforcement of the Code is provided by (designees of) the City Manager. Additional inspections and educational compliance efforts are provided by Environmental Services and Maintenance Division staff. Violations are enforced through civil penalties or stop work orders, as appropriate. Any Springfield citizen or City employee can refer observed or suspected violations for investigation.

Proposed MS4 Plan Activities

Implement existing Code authority on an ongoing basis. Review the effectiveness of the existing Code every two years and amend the Code as appropriate, based on program effectiveness, new or proposed requirements or regulations, budget, and staffing.

Measurable Goals

The City will track construction site inspections and nuisance violations similarly to LDAP inspections. The list of violations will be reviewed on an annual basis to evaluate the effectiveness of the program.

Development/Implementation Schedule

BMP CSW4:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Implement existing Code authority on an ongoing basis.				
Review and amend the Code as appropriate.				
Conduct inspections on an ongoing basis.				

Minimum Control Measure #5: Post-Construction Stormwater Management for New Development and Redevelopment

Permit Requirements

The permittee must:

i. Develop, implement, and enforce a program to ensure reduction of pollutants in storm water runoff to the maximum extent practicable (MEP) from new development and redevelopment projects that disturb one acre or more, or less than one acre if they are part of a larger common plan of development or sale, and discharge into the permittee's small MS4. The permittee's program must ensure that controls are in place that would prevent or minimize water quality impacts.

ii. Develop and implement strategies that include a combination of structural or non-structural BMPs appropriate for the permittee's community, and

(1) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;

(2) Ensure adequate long-term operation and maintenance of BMPs; and

(3) Ensure adequate enforcement of ordinance or alternative regulatory program.

Applicable City of Springfield BMPs

Development Standards:

DS1 -- Springfield Development Code Standards and Engineering Design Standards and Procedures Manual

DS2 -- Post Construction Stormwater System Maintenance Inspections and Compliance

DS3 -- Stormwater Facilities Master Plan (SWFMP) and Capital Improvement Program (CIP)

Rationale

The City selected the above BMPs to meet the post-construction Minimum Control Measure requirements. The Springfield Development Code requires that new developments incorporate stormwater management BMPs to reduce the impacts associated with stormwater runoff generated at the site. BMP DS1 provides for maintenance of the appropriate Development Code requirements and the more specific design requirements included in the Engineering Design Standards and Procedures

Manual, such that pollutants from stormwater runoff from new development are reduced to the maximum extent practicable, in partial compliance with the requirements of this Minimum Control Measure. BMP DS2 provides for the development of a long-term inspection and enforcement program, which is still needed to fulfill all the requirements noted above. BMP DS3 was selected to address opportunities for implementing water quality improvement projects associated with retrofits to and expansion of the public stormwater drainage system. This BMP will support fulfillment of requirements i and ii by providing publicly-funded and managed water quality improvement infrastructure to supplement reduction of pollutants associated with increased stormwater runoff from a growing urban environment.

Responsible Parties

Public Works and Development Services Departments

Summary of Measurable Goals

The regulatory framework for control of post-construction stormwater runoff is contained in the Springfield Development and Municipal Codes, and the Engineering Design Standards and Procedures Manual. This framework will be refined and expanded as needed to improve the City's capability to achieve reductions in stormwater pollution from new developments through periodic evaluations and updates to the Codes. Measurable goals will include:

(1) tracking Site Plan Review and Land Division approvals for adequacy of stormwater quality management;
(2) tracking compliance achieved in private maintenance of stormwater management systems required in the development approval process; and
(3) developing new stormwater drainage infrastructure that incorporates stormwater quality improvement facilities where practicable.

Summary of Development/Implementation Schedule

BMP #	PERMIT YEAR				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
DS1	Review Code and proposed amendments as appropriate. Seek City Council approval and adoption of amendments each year. Similarly, review Engineering Design Standards and Procedures Manual and amend as needed to reflect Best Management Practices.				
	Implement existing Codes/ Design Manual and track/ analyze effectiveness at achieving BMPs that comply with pollutant reduction MEP requirement.		Develop/ adopt Code/ Manual amendments to address identified deficiencies.	Implement updated standards.	Analyze effectiveness
DS2	No action	Develop long-term BMP maintenance inspection, technical assistance, and enforcement program.	Dedicate staffing to conduct inspections, technical assistance, and enforcement activities on an ongoing basis.	Maintain inspection and compliance activities and track/analyze program effectiveness and success/failure of BMPs observed over time.	
DS3	Complete and adopt updated SWFMP.		Implement SWFMP through annual CIP adoption and construction process.		

BMP DS1*:* Springfield Development Code Standards and Engineering Design Standards and Procedures Manual

Responsible Parties

City Engineer, Planning Division Manager, ESD Manager, Community Services Manager

BMP Description

This BMP is intended to ensure that adequate Springfield Development Code provisions and engineering/design standards are maintained to require new developments to incorporate stormwater quality and quantity management facilities (structural and non-structural) into site plans and land divisions. The regulations are intended to meet the requirements of Minimum Control Measure #5 by ensuring that post-construction stormwater runoff from new development and redevelopment is treated to minimize adverse impacts on the stormwater drainage system and preserve riparian function to the maximum extent practicable. The Springfield Development Code provisions ensure that land use/development proposals incorporate structural systems (such as oil/water separators) and non-structural systems (such as landscaped bio-swales or wetlands) into site designs. The Engineering Design Standards and Procedures Manual provides specific guidance and flexible options to ensure the stormwater quality systems are structurally sound and effective at meeting the MEP objective.

Existing Conditions

Adverse impacts associated with stormwater runoff from developed areas often include high discharge rates, high water temperatures, and contamination from pollutants such as dissolved metals, nutrients, sediments, oil and grease, and bacteria. These pollutants degrade water quality, increase flooding, and result in added ongoing City maintenance costs. They also impact riparian area functions, which are important to maintaining wildlife habitat, especially ESA protected salmon species, as well as providing cooling, filtration (cleaning), and flow attenuation of both surface runoff and in-channel flows.

Since 1986, the Springfield Development Code has required development proposals to include appropriate stormwater management systems to reduce adverse water quantity and quality impacts of new developments on the stormwater drainage system. In 2002, the City enacted additional stormwater quality-related requirements in an effort to address CWA and ESA water quality and riparian area protection requirements. Also in 2002, the City adopted the Engineering Design Standards and Procedures Manual to provide specifications and options for stormwater management systems and strategies that can meet the Springfield Development Code requirements. The current Manual relies significantly on the experience of other communities, such as Portland and Eugene, Oregon, which have had long-standing stormwater quality management programs.

The intention of the Manual and Springfield Development Code is to provide guidance to the development community to improve long-term stormwater management to meet the requirements of Minimum Control Measure #5 - Post-Construction Stormwater Management for New Development and Redevelopment. However, these provisions, together, have produced mixed results in curbing stormwater pollution caused by new or redevelopment, to the level of the DEQ MEP standard. This BMP recognizes that the current program requires review and potential refinement to ensure that consistently adequate stormwater quality management is included in approved developments.

Proposed MS4 Plan Activities

With the adoption of the stormwater quality and riparian area management amendments to the Springfield Development Code in 2002, the City completed the first phase of a work program to address CWA and ESA issues. The work plan includes additional phases of Code review to ensure that the City's regulatory programs are adequate to meet Federal requirements. Over the course of the MS4 permit period, the City will continue to implement existing Development Code and Design Manual requirements. The City will track the success/failure of the requirements in adequately addressing post-construction stormwater management to minimize long-term stormwater pollution impacts of new and redevelopment projects. The City also will continue with its planned activities to review City standards and develop appropriate amendments to meet Federal clean water objectives.

Measurable Goals

The measurable goals will result from tracking and evaluating development/subdivision approvals and stormwater management installations for adequacy in reducing or eliminating stormwater pollution. Based on these evaluations and review of existing standards, amendments to City requirements will be developed as needed to improve the overall post-construction stormwater management performance of private developments.

Development/Implementation Schedule

BMP DS1:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Review Code and proposed amendments as appropriate. Seek City Council approval and adoption of amendments each year. Similarly, review Engineering Design Standards and Procedures Manual and amend as needed to reflect Best Management Practices.				
Implement existing Codes/ Design Manual and track/ analyze effectiveness at achieving BMPs that comply with pollutant reduction MEP requirement.		Develop/ adopt Code/ Manual amendments to address identified deficiencies.	Implement updated standards.	Analyze effectiveness.

BMP DS2*:* Post-Construction Stormwater System Maintenance Inspections and Compliance

Responsible Parties

Environmental Services Division

BMP Description

This BMP provides for an inspection and compliance program to ensure that private stormwater management systems (both non-structural and structural), constructed consistent with City development review approvals, are operated and maintained over the long term. This is a direct requirement (ii.2) of Minimum Control Measure #5 - Post-Construction Stormwater Management for New Development and Redevelopment.

Existing Conditions

As described in BMP DS1, the City has required, through the development review and approval process, stormwater management systems (both structural and non-structural) in private developments for many years. The systems approved under the current standards are intended to meet the Federal MEP requirement at the time they become operational. While developments are required to maintain sites in the approved conditions for the duration of their operation, the City currently has no program or staffing to ensure "adequate long-term operation and maintenance" of stormwater management systems. However, inadequately maintained facilities, such as oil/water separators or clogged catch basin, are frequently observed by staff when responding to complaints.

Proposed MS4 Plan Activities

Over the course of the MS4 permit timeframe, the City will develop a stormwater management system maintenance inspections and compliance program. This program will dedicate staff resources necessary to inventory the private stormwater management systems that have been constructed, inspect them, and provide education and technical assistance to property owners, as well as enforcement activities if and when needed to remediate substandard conditions.

Measurable Goals

Measurable goals for this BMP include tracking of inspections and maintenance activities performed, as well as substandard conditions identified in the field and follow-up activities that demonstrate that the facilities have been returned to the conditions under which they were originally approved.

Development/Implementation Schedule

BMP DS2:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
No action	Develop long-term BMP maintenance inspection, technical assistance, and enforcement program.	Dedicate staffing to conduct inspections, technical assistance, and enforcement activities on an ongoing basis.	Maintain inspection and compliance activities and track/analyze program effectiveness and success/failure of BMPs observed over time.	

BMP DS3*:* Stormwater Facilities Master Plan (SWFMP) and Capital Improvement Program (CIP)

Responsible Parties

Public Works Department

BMP Description

This BMP provides for completion of a comprehensive Stormwater Facilities Master Plan (SWFMP) for the City that includes up-to-date stormwater drainage system information, recommendations for future improvements, and assists both the City and the development community in planning for expansion in a way that addresses stormwater quality and capacity issues.

Existing Conditions

The systems of pipes, ditches, ponds, and other stormwater handling facilities are interconnected, and to work efficiently, must be sized and staged to minimize flooding and provide additional capacity for future development. The City maintains master plan documents that identify the available capacity requirements for expansion, bottlenecks, and recommended stormwater drainage system improvements. The existing Master Plan for the City is actually two plans: The West Springfield Drainage Master Plan and the Storm Drainage Study for East Springfield, written in June, 1983, and June, 1979, respectively. Both studies are outdated and inadequate to address current stormwater management issues, especially those that are associated with water quality.

Proposed MS4 Plan Activities

The City has dedicated staffing and funding for the purpose of developing and implementing a new comprehensive SWFMP. A consultant team has been retained to assist in the development of the SWFMP. Development of the SWFMP was initiated during the summer of 2003, and was completed and presented to the City Council for adoption in 2008. The SWFMP includes recommendations and a prioritized list of multiple objective capital improvement projects, which will be reviewed and implemented through the City's annual Capital Improvement Program (CIP). Staff will update and modify the SWFMP over time as necessary to respond to community development patterns.

Measurable Goals

Measurable goals include completion of the SWFMP in 2008, and implementation of stormwater quality-related capital improvement projects on an ongoing basis as prioritized in the plan.

Development/implementation Schedule

BMP DS3:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Complete and adopt updated SWFMP.		Implement SWFMP through annual CIP adoption and construction process.		

Minimum Control Measure #6: Pollution Prevention in Municipal Operations

Permit Requirements

The permittee must:

i. 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; and

ii. Using training materials that are available from the Department [DEQ], EPA, or other organizations, the permittee's program must include employee training to prevent and reduce stormwater pollution from activities including, but not limited to, park and open space maintenance, fleet and building maintenance, new municipal facility construction and related land disturbances, design and construction of street and storm drain systems, and stormwater system maintenance.

Applicable City of Springfield BMPs

Operation and Maintenance:

OM1 -- Pollution Control Manuals for City Operations

OM2 -- Stormwater Quality Technology Pilot Program

OM3 -- Channel Assessment

OM4 -- Vehicle Maintenance Facility Stormwater Pollution Control Plan

OM5 -- Street Sweeping for Stormwater Pollution Control

Rationale

The City selected the above five BMPs to address Minimum Control Measure #6 - Pollution Prevention in Municipal Operations. BMP OM1 includes:

(1) implementation of a Pollution Control Manual for Routine Maintenance Activities; and
(2) scheduled evaluations of City practices, such as those associated with Police and Fire and Life Department activities, and developing pollution control manuals or procedures as appropriate.

The City's Pollution Control Manual for Routine Maintenance Activities was developed with the intent to meet requirements i and ii above, along with other Federal regulatory programs. Further evaluation of other City Departments' activities with potential to impact stormwater will also be included in BMP OM1. The Pollution Control Manual will be updated to adapt and improve maintenance operations as appropriate. BMP OM2 includes pilot testing of stormwater quality technologies that meet pollution reduction objectives. BMP OM3 provides an updated assessment of open channel conditions. This assessment

will assist the City in prioritizing capital improvements and maintenance activities that improve open channel stormwater quality functions throughout the city. Each of the BMPs aims to prevent or reduce pollutants contained in urban stormwater runoff from municipal operations. Training on the practices outlined in the City's Pollution Control Manual for Routine Maintenance Activities, which addresses requirement ii of this Minimum Control Measure, is covered under BMP OM1. Site specific stormwater quality management practices are included in the Vehicle Maintenance Facility Stormwater Pollution Control Plan (SPCP) (BMP OM4). BMP OM5 addresses street sweeping as a pollution control practice, and includes an assessment and evaluation of existing practices and implementing improved practices as appropriate.

Responsible Parties

Environmental Services and Maintenance Divisions

Summary of Measurable Goals

The City finished a review and update of City Maintenance practices, which resulted in a Pollution Control Manual for Routine Maintenance Practices. Implementation, including training of the new Pollution Control Manual, began in 2004. A review of the Manual will begin in the second year of the program. Specific activities will be tracked to evaluate their effectiveness at minimizing negative impacts on stormwater quality.

The evaluation of other City operations and development of appropriate pollution control manuals will be developed and implemented in years 4 and 5 of the permit. The Channel Assessment and data will be maintained on a regular basis. Two updates to the SPCP will be completed during the permit period. The street sweeping evaluation will occur in FY 08-09 and FY 10-11, with subsequent implementation of adapted BMPs in alternate years.

Summary of Development/Implementation Schedule

BMP #	PERMIT YEAR				
	FY 07-08	**FY 08-09**	**FY 09-10**	**FY 10-11**	**July 1, 2011 to Dec 31, 2011**
OM 1	Ongoing implementation of the Pollution Control Manual for Routine Maintenance Activities.				
	Conduct training as appropriate.	Review and revise manual as appropriate.	Conduct training as appropriate.	Review and revise manual as needed.	Conduct training as appropriate.
	No action	Initiate review of other City activities.	Develop Pollution Control guidance for other City departments.	Implement Pollution Control Guidance.	
OM 2	Conduct pilot testing of stormwater quality technologies on an ongoing basis. Public Works will then review for appropriateness of broad application.				
OM 3	Update the channel assessment when necessary as a result of new development.				
OM 4	Implement SPCP and train staff.	No action	Review and update SPCP as necessary.	No action	Review and update SPCP as necessary.
OM 5	Maintain street sweeping program.	Assess and evaluate street sweeping program; recommend changes or improveme nts as appropriate.	Implement and evaluate changes.	Review and evaluate program effectiveness; recommend changes or improvement s as appropriate.	Implement and evaluate any changes.

BMP OM1*:* Pollution Control Manuals for City Operations

Responsible Parties

Environmental Services and Maintenance Divisions (first phase) and other City Departments as appropriate (e.g., Fire and Life Safety and Police Departments)

BMP Description

Develop and implement the Pollution Control Manual for Routine Maintenance Activities to minimize impacts to stormwater runoff, and evaluate remaining City operations activities with potential to impact stormwater.

Existing Conditions

In 2001, the City reviewed all maintenance work practices that could potentially contribute to water quality or habitat degradation. Reference manuals developed by the Association of Clean Water Agencies (ACWA) and the League of Oregon Cities (LOC) were used to guide this evaluation, in order to determine where alternative practices are needed to comply with CWA and ESA requirements. Based on this evaluation, practices found to have significant potential for negatively impacting water quality were further scrutinized for the possibility of implementing alternate methods. Staff identified nearly three hundred separate maintenance practices that were outlined in their Standard Operating Policies and Procedures documents. Some of these activities had the potential for adversely impacting groundwater, creating erosion and sedimentation, or otherwise negatively impacting soil, waterways, or the environment.

Certain work practices were eliminated completely; others were modified to minimize impacts; and others were revamped with alternative materials, practices and outcomes to achieve similar results to the old practices, but with much less impact. New procedures were standardized and integrated into a Pollution Control Manual for Routine Maintenance Activities for the City's Maintenance Division. This is a working manual. The initial training is provided by Environmental Services Division staff and the practices will be tested in the field for at least one year. Any revisions that are necessary will be made by ESD in collaboration with the Maintenance Division for full implementation. Any ongoing and additional training will be provided by the Maintenance Division.

Proposed MS4 Plan Activities

Regarding the Pollution Control Manual for Routine Maintenance Activities, ongoing implementation, refinement, and training will be conducted throughout the permit period.

A similar evaluation process will be conducted for implementation to address the remaining City practices with potential to degrade stormwater quality. The process is anticipated to be essentially the same, working closely with staff from other departments, to identify activities, assess their impacts on stormwater quality, and determining if there are effective and appropriate measures available to minimize stormwater pollution. It is expected that the Police and Fire and Life Safety Departments will have the remaining operational activities, such as vehicle washing and incident clean-up, warranting this evaluation.

Measurable Goals

The City will continue to review and update the Pollution Control Manual for Routine Maintenance Activities as necessary on a bi-annual basis. The review will focus on feedback from staff as to what is and is not working.

Development/Implementation Schedule

BMP OM1:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Ongoing implementation of the Pollution Control Manual for Routine Maintenance Practices				
Conduct training as appropriate.	Review and revise manual as appropriate.	Conduct training as appropriate.	Review and revise manual as appropriate.	Conduct training as appropriate
No action	Initiate review of other City activities	Develop Pollution Control guidance for other City departments	Implement Pollution Control Guidance.	

BMP OM2*:* Stormwater Quality Technology Pilot Program

Responsible Parties

Public Works Department

BMP Description

This BMP involves identification and testing of the most efficient and cost-effective products, materials, and practices that can be incorporated into or used by staff to maintain the stormwater drainage system to minimize stormwater pollution.

Existing Conditions

The City of Springfield devotes resources each year to evaluating stormwater quality management devices, materials, and practices on a pilot scale. For example, the City has installed various types of devices in City-owned catch basins intended to filter pollutants from urban runoff. The effectiveness and maintenance requirements of these devices are being evaluated for ease of use, effectiveness, cost, and longevity. To date, catch basin filtration inserts have been installed and maintained on most City-owned properties. Ultimately, the best-suited equipment will be identified and used extensively by the City to intercept debris and other pollutants from the stormwater drainage system. The pilot test information also will aid the City in supporting property owners/developers' selection of effective stormwater quality management systems.

Proposed MS4 Plan Activities

The City will continue to conduct pilot testing of stormwater quality technologies. With respect to the existing pilot tests of catch basin inserts, efforts will continue to be made to identify and select devices for various conditions. Given the diversity of products available, it will take several years to test a representative sample for effectiveness in meeting various stormwater quality objectives. As a result, most, if not all, City-owned properties will be outfitted with stormwater quality filtration catch basins.

Measurable Goals*:*

Within budget constraints, continue to acquire, test, and track the number and type of stormwater quality management products, materials, and practices that are evaluated on a pilot test each year.

Development/Implementation Schedule

BMP OM2:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Conduct pilot testing of stormwater quality technologies on an ongoing basis. Public Works will then review for appropriateness of broad application.				

BMP OM3*:* Channel Assessment

Responsible Parties

Environmental Services and Maintenance Divisions

BMP Description

Maintain an up-to-date assessment of open channel conditions to support stormwater management planning efforts.

Existing Conditions

In 2002, ESD staff conducted a channel assessment for all surface waterways inside the city limits. The assessment was intended to gather the following information, citywide:

- Erosion-prone areas;
- Stream bed material;
- Reach profile;
- Fish passage constraints;
- Presence of invasive plant species (in-stream and riparian zone);
- Presence of native plants for seed stock;
- In-stream structures or constrictions;
- General land use by reach; and
- Plant communities by reach.

Additionally, measurements were made, reach by reach, to calculate channel capacity, pH, temperature, and dissolved oxygen.

Survey information was entered into a database, with specific information made available to City Maintenance staff for follow up on invasive noxious weed control and erosion control, and to City Engineering for channel capacity and in-channel constrictions. The database format was developed based on USDA assessment protocols, with modifications to include additional information to make the information more relevant to the urban environment. A sample data sheet and the data sheet key are provided in Appendix K – 2002 Channel Assessment.

In addition to assisting Maintenance with identification of invasive and native plant species, the assessment is intended to provide information regarding channel conditions to support the development of the Stormwater Facilities Master Plan (see BMP DS3) and to provide baseline channel conditions for water quality and riparian habitat in support of City stormwater management planning efforts.

Proposed MS4 Plan Activities

Updates to the channel assessment will occur when and where new development has the potential to alter conditions.

Measurable Goals

Track updates made to the channel assessment on an annual basis.

Development/Implementation Schedule

BMP OM3:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Update the channel assessment when necessary as a result of new development.				

BMP OM4*:* Vehicle Maintenance Facility Stormwater Pollution Control Plan (SPCP)

Responsible Parties

Environmental Services and Maintenance Divisions

BMP Description

Develop and implement a Stormwater Pollution Control Plan (SPCP) for the City's vehicle maintenance facility.

Existing Conditions

Under the NPDES stormwater program, private industries engaged in certain activities with the potential to generate polluted stormwater runoff are required to develop and implement an SPCP. One of these targeted industries is vehicle maintenance. Public agencies are exempt from this requirement. However, in order to comply with MS4 pollution prevention requirements and to provide responsible management of facilities consistent with what private operations are required to perform, the City developed a SPCP for the City vehicle maintenance facility. The SPCP is intended to be a useful guide to inform staff of the location of hazardous materials and drainage paths, and establish work practices and methods for handling potentially polluting materials. The SPCP outlines where hazardous or potentially polluting materials are used and stored, spill response procedures, and maps out the drainage pathways and receiving waterways on or near the site.

Proposed MS4 Plan Activities

The SPCP was drafted during the summer of 2003, and finalized in the winter of 2003-2004. Implementation is anticipated to be complete by Spring, 2004. Initial training for staff will be provided and additional training will be provided when/if new employees come on board.

Measurable Goals

Periodic review and update of the plan will occur on a bi-annual basis.

Development/Implementation Schedule

BMP OM4:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Implement SPCP and train staff.	No action	Review and update SPCP as necessary.	No action	Review and update SPCP as necessary.

BMP OM5*:* Street Sweeping for Pollution Control

Responsible Parties

Maintenance and Environmental Services Divisions

BMP Description

Support existing street sweeping program to minimize impacts to stormwater runoff. Assess and evaluate existing program to determine effectiveness, and implement adaptive management measures as appropriate to maximize effectiveness and efficiency.

Existing Conditions

Street sweeping is a program which has been provided by the City for many years. While this program originated out of the desire to maintain streets for aesthetic and safety purposes, it now is supported entirely by drainage user fees for the purposes of keeping debris and pollution out of the stormwater drainage system. Mechanized sweepers service established routes throughout the city, sweeping approximately 4000 “curb miles” of streets with three sweepers per year. This practice collects trash, leaves, dirt, and other contaminants from roadsides and gutters, which otherwise flows into the stormwater drainage system, carrying contaminants and toxins. These contaminants include sediment, petroleum, organic and inorganic wastes, and toxic metals from paint, tires, and brake dust.

The City operates sweepers year-round: two mechanical sweepers, which excel in picking up large debris quickly, and a newer “regenerative air,” or “vacuum sweeper,” which works like a vacuum cleaner, and efficiently picks up smaller particles, including may pollutants missed by the mechanical sweeper.

The street sweeping schedule provides for sweeping all streets within the city on a variable basis, from heavily traveled streets swept several times per week to residential streets swept every 6 to 10 weeks. Sweepers are also used to respond to certain types of spill clean-up work at accident or roadway spill scenes, where the material is able to be safely swept up with this type of equipment. Air sweepers are particularly effective at cleaning spills of fine particles like plaster, cement, or other finely-ground materials.

Proposed MS4 Plan Activities

The Environmental Services Division will assist Maintenance Division staff with an assessment of the existing equipment, sweeping schedules, dumping and disposal practices, and overall effectiveness of the program will be conducted. Effectiveness of the program will be determined based on criteria to be developed, focusing on pollution control efficiency and cost effectiveness. Changes, if any, will be developed and implemented by Maintenance staff.

Any changes in the program will be reviewed as they are implemented, with a subsequent program evaluation every-other-year. The process is anticipated to be essentially the same as the initial assessment, working closely with Maintenance staff to identify activities, assess their impacts on stormwater quality, and determine if there are other measures available to minimize stormwater pollution and enhance program effectiveness.

Measurable Goals

The City will maintain the existing street sweeping program while conducting the assessment, and evaluating and implementing any changes as necessary on a bi-annual basis.

Development/Implementation Schedule

BMP OM5:

FY 07-08	FY 08-09	FY 09-10	FY 10-11	July 1, 2011 to Dec 31, 2011
Maintain street sweeping program.	Assess and evaluate street sweeping program; recommend changes or improvements as appropriate.	Implement and evaluate changes.	Review and evaluate program effectiveness; recommend changes or improvements as appropriate.	Implement and evaluate any changes.

Appendix A –

Springfield City Council Review of Springfield Water Resources Issues – Key Outcomes

The "Key Outcomes" are goals endorsed by the City Council in 1999, and serve as local guidance for stormwater management in the City. The Outcomes are the basis for the Goals included in the Stormwater Plan.

Appendix B –

Adopted Public Involvement Plan, 2003

NPDES requirements include developing a plan for ensuring public involvement in the development of the City's stormwater management plan. This Public Involvement Plan was developed as part of the City's NPDES MS4 application, and was adopted by the Springfield Planning Commission, acting in its capacity as the Committee for Citizen Involvement (CCI).

Appendix C –

DEQ Guidance for Development of MS4 Stormwater Management Program Plans

In 2002, the Oregon DEQ issued draft guidance for NPDES MS4 plan development. This guidance is the basis for Springfield's Stormwater Plan development.

Appendix D –

Clean Water Act National Pollutant Discharge Elimination System Stormwater Program Rules – 40 CFR, Part 122.26 and OAR 340-041

These two regulations, one Federal and one State, are the basis for the NPDES MS4 stormwater program. Provisions of the Federal regulations are delegated to, and administered by, the State of Oregon, through the Department of Environmental Quality.

Appendix E –

City of Springfield Municipal Separate Storm Sewer System Stormwater Discharge Permit Application, March 2003

The Clean Water Act's NPDES MS4 program requires that the City complete and submit an application for an NPDES MS4 Stormwater Discharge Permit application by March 10, 2003. A complete copy of Springfield's DEQ submittal is included.

Appendix F –

Summary of Oregon Water Quality Standards and Table showing 303(d) list information relevant to McKenzie and Willamette Rivers

The State of Oregon has developed minimum water quality standards for waters of the State. Also included is a listing of Oregon's "Beneficial Uses"; these are, essentially, the uses that the State values when assessing water quality. Water quality standards are developed to protect the beneficial uses of the State's waters.

Appendix G –

NOAA Fisheries Stormwater Guidance BMP Table

This is a collection of BMPs accepted by NOAA Fisheries to avoid and minimize adverse effects on native salmonids populations. The Appendix is an excerpt from the NOAA guidance.

Appendix H –

Statewide Land Use Goals and Guidelines: Excerpts – Goals 6 and 11

This includes excerpts of Oregon Land Use Goals with applicability to natural resources (Goal 6) and public facilities and services (goal 11).

Appendix I –

Public Facilities and Services Plan and Metro Plan policies relevant to Stormwater Management

Both of the above-mentioned plans include goals and policies which direct stormwater management activities; this appendix includes excerpts from these documents.

Appendix J –

Springfield Stormwater Drainage Basins

This is a narrative description of drainage basins throughout the City, including physical properties and water quality issues.

Appendix K –

Springfield Open Channel Assessment Report, 2002

The City of Springfield preformed a channel assessment that evaluated waterways in the Springfield City limits. This appendix is the main report document and does not include all of the individual appendices of the assessment itself. A complete 2002 Channel Assessment document can be obtained by contacting the Environmental Services Division, Water Resource Section.

Appendix L –

Springfield TMDL Implementation Plan, 2009

This document is the City of Springfield's Implementation Plan (IP, or the "Plan") for the Total Maximum Daily Load (TMDL) program, a key component of the federal Clean Water Act. This Plan describes the strategies that the City will implement to reduce temperature, bacteria, and mercury pollution in the Willamette and McKenzie Rivers. This IP is a required submittal, to comply with the Willamette Basin TMDL order (issued by DEQ, Sept 21, 2006) and to help meet pollutant load allocations for the Upper Willamette sub-basin as approved by the US Environmental Protection Agency (EPA) in September 2006.

Addendum #1 –

Stormwater Policy on Downstream Drainage Impact, 2010

Springfield City Council adopted stormwater policy on managing stormwater runoff from development and the impacts it may have on downstream properties.

Addendum #1 was originally adopted in September, 2009 with a revision adoption in July, 2010.