

West Bountiful City



Utah Pollution Discharge Elimination System (UPDES)

Phase II Storm Water Management Plan
(SWMP)
Permit No. UTR090053

West Bountiful City Council Approval – _____

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**WEST BOUNTIFUL CITY
STORM WATER MANAGEMENT PLAN
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PURPOSE

West Bountiful City's Stormwater Management Plan (SWMP) plan is intended to give direction to the City in satisfying Federal and State water quality requirements as set forth under the National Pollutant Discharge Elimination System (NPDES) and Utah Pollutant Discharge Elimination System (UPDES). The purpose of the SWMP is to establish a program which will effectively limit the discharge of pollutants from the West Bountiful City storm drainage system to the maximum extent practicable (MEP).

In an effort to prevent harmful pollutants from being carried by stormwater runoff into local water bodies, this program outlines the implementation of controls in specific areas. The six minimum control measures addressed under the NPDES are:

1. Public Education and Outreach on Stormwater Impacts
2. Public Involvement and Participation
3. Illicit Connection and Illicit Discharge Detection And Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management in Development and Re-Development
6. Pollution Prevention and Good Housekeeping of Municipal Operations

West Bountiful City will implement the SWMP within five years from the issuance date of permit coverage. The SWMP includes the following information for each of the six minimum control measures:

- The best management practices (BMPs) that the City will implement.
- The measurable goals for each of the BMPs.
- The persons responsible for implementing or coordinating the BMPs.
- A rationale for how and why each of the BMPs and measurable goals for the program was selected.

LEGAL AUTHORITY

FEDERAL

In 1972 Congress enacted the Clean Water Act (CWA). The primary purpose of this federal statute is to protect the nation's waters. The objective of the Act is the total elimination of the discharge of pollutants into the nation's waters. The NPDES is a provision of the CWA. This provision prohibits discharge of pollutants into waters of the United States unless a special permit is issued by Environmental Protection Agency (EPA), a state, or another delegated agency. As authorized by the CWA, the NPDES permit program controls water pollution by regulating point sources that discharge into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches.

Phase II of the NPDES permit program focuses on Small Municipal Separate Storm Sewer Systems (MS4s). The regulated entities must obtain coverage under an NPDES stormwater permit and implement a SWMP. The main objective of the program is to control point source pollution in urbanized areas to the maximum extent practicable.

STATE

The State Department of Environmental Quality (DEQ) administers the NPDES permit program in the State of Utah. The State has filed a General Permit. The DEQ issues UPDES permits under the State's general permit.

COUNTY

Although West Bountiful City will be issued a separate permit, the City will work jointly with the County Public Education and Outreach on Stormwater Impacts through the Davis County Storm Water Coalition.

CITY

West Bountiful is located in Davis County. The population of the community according to the 2000 Census is 4,484. The majority of the land use in the City is residential. There are some agricultural and commercial areas.

West Bountiful City will implement management practices that will effectively limit, to the maximum extent practicable, the discharge of pollutants from the storm drainage system. The City will establish legal authority to control discharges to and from the storm drainage system through a combination of statute, ordinance, permit, contract, or order.

A combination of a storm water user fee and plan review and inspection fees is the recommended funding mechanism to pay for the cost of implementing the NPDES/UPDES program and supplementing the region's growing storm water system needs. West Bountiful City has decided to utilize an impervious area rate methodology as the basis for funding the regional storm water utility. Storm water fees will be determined by calculating the total impervious area contained within an individual parcel. The rate structure will include procedures for challenging fees and for obtaining "credits" to reduce the effective fee. The West Bountiful City SWMP will be coordinated by the director of public works.

SWMP REVIEW AND MODIFICATION

The City shall complete an annual review of the current SWMP. The review shall include (a) a review of the status of program implementation and compliance with the schedule-of-compliance contained in the SWMP; (b) a review of any revisions or changes of BMP's in the reporting year and an assessment of the changes or revisions for effectiveness; and (c) an overall assessment of the goals and direction of the SWMP and the effectiveness of the BMP's.

The SWMP may be modified by adding or subtracting a component, BMP, or requirement to the SWMP at any time in accordance with the following provision. Adding a BMP or other component to the SWMP can be made at any time provided the BMP or component is defined in writing. Subtracting a BMP or component identified in the SWMP must be made in written notice submitted to the Executive Secretary of the Division of Water Quality prior to the change. The subtraction shall be supported by justification explaining why the item is removed and evaluating the level of performance of any replacement item, all in accordance with Part IV.C.2 of the General Permit.

CHAPTER ONE

PUBLIC EDUCATION AND OUTREACH

The key to implementing and managing an effective storm water management program begins with community awareness and involvement. With this, greater support is typically achieved as the public gains an understanding of the reasons why storm water management is necessary and important. Public support is also beneficial when municipalities attempt to institute new funding initiatives or when recruiting volunteers. In addition, greater compliance with program requirements is realized as individuals become aware of their role in protecting the environment and their ability to impact the quality of local waterways.

USEPA Requirements

To satisfy this control measure, permittees must implement a public education program regarding the importance of proper storm water management. At a minimum, permittees must perform the following tasks:

- Implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities to communicate the impacts of storm water discharges on local water bodies. In addition, this program must address steps that can be taken to reduce storm water pollution
- Determine appropriate best management practices and measurable goals toward developing a public education and outreach program.

USEPA Guidelines

Three main action areas are important for successful implementation of a public education and outreach program:

- Forming partnerships with governmental, environmental, civic and industrial organizations.
- Using educational materials and strategies, such as brochures, posters, educational displays at events, telephone hotlines and educational programs for school children.
- Reaching diverse audiences through a mix of appropriate local strategies to address the viewpoints of a variety of audiences and communities, including minority and disadvantaged communities, as well as children.

PROPOSED BMPS

Education to eliminate improper discharge of highly visible waste

West Bountiful City will produce a quarterly newsletter that will contain **recycle information and waste disposal information**. The newsletter will also contain yard maintenance tips and promote water conservation.

Classroom Presentations

West Bountiful City will provide classroom presentations to teach students about storm water runoff and its effect on the quality of our water. The Davis County Storm Water Coalition has contracted with Rita Stevenson, a certified elementary school teacher with a science endorsement, to present the training activities to each school in the Davis School. Education packets will be distributed to all fourth grade school classrooms each year.

Cooperation between West Bountiful City and Davis County for to promote public awareness.

West Bountiful City will coordinate with the Davis County Storm Water Coalition

Table 1 Public Education and Outreach

Measurable Goals	Schedule
Identify by name the civic groups to contact. Identify local businesses to target for education and outreach.	
Education of city employees	
Distribute through the City Newsletter information about lawn watering (Spring) and household waste disposal (Fall).	
Distribute to each fourth grade classroom the outreach educational packets.	
Cooperation between Davis County and Salt Lake County for public awareness television spots	

Supporting information for this minimum control measure may be found in Appendix "A"

Method for determining success of the measurable goals for Minimum Measure #1

1. The success of the classroom presentations will be based on the number of fourth grade students that receive the educational packets during each year.
2. The success of print materials will be based on the observed reduction of water running in gutters during lawn watering activities and the increased activity in the City's fall cleanup efforts.
3. The number of business that participate in the presentation of the storm water educational information will determine the success.
4. Individual comments and requested response to the City's web page will provide a measurement of the success of the improved web page.

CHAPTER 2

Minimum Measure #2 – Public Participation and Involvement

The USEPA believes the public can provide valuable input and assistance toward implementing a Phase II storm water management program. As a result, the NPDES/UPDES Phase II program will require public participation and involvement in the development and implementation of a storm water management program. Providing the public with an opportunity to develop the program will help to broaden public support, increase the number of potential ideas to meet the permitting requirements, provide a conduit to other community and government programs and shorten the implementation schedules due to fewer public outcries and dissent.

USEPA Requirements

At a minimum, permittees will be required to determine appropriate best management practices and measurable goals toward encouraging public participation and involvement.

USEPA Guidelines

Permittees should include the public in developing, implementing, and reviewing their storm water management programs. The public participation process should make every effort to reach out and engage all economic and ethnic groups. Alternative advertising methods should be used whenever possible, including radio or television spots, postings at bus or subways stops and multilingual announcements. There are a variety of practices that could be incorporated into a public participation and involvement program, such as public meetings, citizen watch groups, community cleanups and storm drain stenciling.

Action Plan [BMP's] for Public Participation and Involvement

City employee training

Conducted a training sessions with the three snowplow operators and established guidelines for salt distribution. Determined the types of weather that salt application would be acceptable.

Storm Drain Stenciling Program

West Bountiful City will implement its storm drain stenciling program. Storm drain stenciling involves labeling storm drain inlets with painted messages warning citizens not to dump pollutants into the drains. The stenciled messages are generally a simple phrase to remind passersby that the storm drains connect to local waterbodies and that dumping pollutes those waters. Commonly stenciled messages include: "Drains to River," and "No Waste Here."

Partnerships/Community Involvement

This management plan represents the formation of a partnership between West Bountiful City and groups such as the local land developers, citizens and local businesses. Examples of these local groups include the Home Builders Association, members of local churches and businesses located within the community. West Bountiful City will encourage citizens to participate in activities that will protect or rehabilitate local waterways and drainage areas such as the Barton Creek, Stone Creek and Millcreek channels. This will be done through the use of announcements in city newsletters

Citizen Storm Water Advisory Committee

In order to give the community a voice in the storm water program, the City will create a Storm Water Advisory Committee. The Committee will meet at least one time per year to hear updates on the progress of the program and will provide the City with input on program implementation. Meetings will be publicized in advance in order to increase public attendance.

Table 2 Public Participation and Involvement

Measurable Goals	Schedule
Education of city employees	
Storm drain stenciling program targeting the next 10% of inlet grates. Alert the local Boy Scouts of America and Girl Scouts organizations of brochures and information that may be used as part of the merit badge program.	
Partner with local residents to clean Barton Creek along Pages Lane, a direct route to the Bountiful landfill.	
The Storm Water Advisory Committee will meet in a publicized meeting and approve the yearly report to be submitted to the State.	

Supporting information for this minimum control measure may be found in Appendix "B"

Method for determining success of the measurable goals for Minimum Measure #2

1. The creation of the Storm Water Advisory Committee (SWAC) is a milestone of success.
2. The positive involvement of the SWAC in publicized meetings, which are well attended will be an indicator of success.
3. The completion of the ten percent (10%) inlet grate stenciling each year will show success.
4. Positive interaction with the Boy Scouts of America and the Girl Scouts program with a number of participants earning awards.
5. A significant response to the attitude survey by the citizens is a measure of success.

CHAPTER 3

Minimum Measure #3 – Illicit Discharge Detection and Elimination

To eliminate illicit discharges into the public storm sewer system, permittees will be required to develop a strategy to detect and eliminate such discharges. An illicit discharge has been defined by the EPA as “any discharge into a separate storm sewer system that is not composed entirely of storm water”. Typically, illicit discharges enter a storm sewer system either through direct connections, e.g., sanitary sewer piping, or indirectly from cracked sanitary sewer conveyance systems, spills collected by storm drains, or from contaminants dumped directly into a storm drain inlet. Pollutants associated with illicit discharges include heavy metals, toxins, oil and grease, solvents, nutrients, viruses and bacteria. These untreated discharges have the potential to cause significant degradation to receiving waterbodies. The following are typical examples of illicit discharges:

- Sanitary wastewater
- Effluent from septic tanks
- Laundry wastewater
- Commercial car wash discharges
- Improper disposal of household or automotive toxics
- Spills from roadway accidents

Substantial levels of these contaminants can damage fish and wildlife habitats, decrease aesthetic value, and threaten public health due to contaminated food and drinking water supplies.

USEPA Requirements

The Storm Water Phase II rule requires the following to comply with this minimum measure:

1. Develop a storm sewer map illustrating the location of all storm sewer outfalls and the names and location of all waters of the United States that receive discharges from these outfalls.
2. Prohibit the discharge of non-storm water discharges into the public storm sewer system through the implementation of an ordinance or other regulatory mechanism and appropriate enforcement procedures and actions.
3. Develop a plan to detect and address non-storm water discharges, including illegal dumping.
4. Educate public employees, businesses, and the general public regarding the impacts associated with illegal discharges and the improper disposal of waste.
5. The determination of appropriate best management practices (BMPs) and measureable goals for this minimum control measure.

USEPA Guidelines

The objective of the illicit discharge detection and elimination minimum control measure is to have regulated small MS4 operators gain a thorough awareness of their systems. This awareness allows them to determine the types and sources of illicit discharges entering their system; and establish the legal, technical, and educational means needed to eliminate these discharges. Permittees could meet these objectives in a variety of ways depending on their individual needs and abilities, but some general guidance for each requirement is provided below.

The Map - A storm sewer system map is meant to demonstrate a basic awareness of the intake and discharge areas of the system. It is needed to help determine the extent of discharged dry weather flows, the possible sources of the dry weather flows, and the particular waterbodies these flows may be affecting.

The Plan – The plan to detect and address illicit discharges is the central component of this minimum control measure.

The four steps of a recommended plan include:

1. Locate problem areas
2. Find the source
3. Remove/Correct illicit connections
4. Document actions taken

Educational Outreach – Outreach to public employees, businesses, property owners, the general community, and elected officials regarding ways to detect and eliminate illicit discharges is an integral part of this minimum measure.

Action Plan [BMP's] for Illicit Discharge Detection /Elimination

Storm Sewer System Map

A map of the public storm sewer system, which identifies outfalls to local surface waters, will be completed by West Bountiful City. This inventory will include both the open system (creeks, streams, ponds, and ditches) and the closed system (manholes and inlets), containing pipe diameters greater than or equal to 12 inches.

The Plan to Detect and Address Illicit Discharges

As part of the SWMP, West Bountiful City will try to detect and eliminate illicit discharges. In order to detect non-storm water discharges, the City will develop a program and methodology for identification of these discharges. EPA has determined that after a 72-hour time period of no rainfall, any discharge from a municipal separate storm sewer may be non-storm water related. Therefore, unless the discharge is exempt from the regulation such as irrigation water, subsurface water drainage, water line flushing, or residential car washing, the discharge is considered to be illicit. In order to determine the source of the discharge, sampling or dye testing must be performed during dry weather conditions. During the second year of the permit, the City will develop a plan to detect and address illicit discharges. The plan will have four major components:

1. Locate problem areas by visual inspection
2. Find the source by visual and television inspection
3. Remove/correct illicit connections
4. Document the actions taken

Develop an system inspection schedule

West Bountiful City will develop an inspection schedule to review all control structures within the community. As previously mentioned in the Public Involvement and Participation section, the hazardous materials collection directly affects the entrance of illicit discharges into the storm sewer system. The City, in a partnership with Wasatch Energy Systems, will investigate the establishment of a hazardous material recovery facility that accepts batteries and used oil, items that commonly end up in storm sewer systems or nearby streams when these facilities are not available.

Table 3 Illicit Discharge Detection and Elimination

Measurable Goals	Schedule
Develop storm sewer system map which shows all storm drain lines, inlet boxes, open channels and discharge points to Davis County Channels or other Waters-of-the-United States.	
Obtain recommendations from the Storm Water Advisory Committee for Illicit Discharge Prohibition Ordinances..	
Monitor at least 20% of all collection lines. Prepare a storm water management guide for small business.	

Supporting information for this minimum control measure may be found in Appendix “C”

Method for determining success of the measurable goals for Minimum Measure #3

1. A completed map of the City’s storm drain system with appurtenant structures is a measure of success.
2. The adoption of ordinances and rules governing illicit discharge during the time frame given is a measure of success.

3. Begin a system wide review of all connections to the storm sewer system, either direct connection or surface flow drainage connections. Categorize the type of connections and the potential contamination loading. This will be considered successful when 20% of the system has been visually monitored.
4. Distribution of information brochures to probable dischargers of illicit waste found during visual inspection of the system with verifiable correction to the discharge.
5. Action by Wasatch Energy Systems to begin an enhanced waste recycling program will be considered a success.

CHAPTER 4

Minimum Measure #4 – Construction Site Storm Water Runoff Management

Polluted storm water from construction sites is often conveyed to storm sewer systems that ultimately discharge into rivers and streams. Sediment from construction sites has been shown to exceed that from agricultural lands by 10 to 20 times and 1,000 to 2,000 times for forested land. During a small storm event, both large or small construction sites can contribute a significant quantity of pollutants to receiving water bodies. Although sediment is the primary concern, other contaminants include nutrients, pesticides, oils and grease, concrete truck washout, and construction chemicals and debris.

USEPA Requirements

The Storm Water Phase II rule requires the following to comply with this minimum measure:

1. Establishment of an ordinance or other regulatory mechanism requiring the proper implementation of sediment and erosion controls, and controls for other wastes, for construction sites with a land disturbance greater than or equal to one acre.
2. Procedures for site plan review of construction plans that consider potential water quality impacts.
3. Procedures for site inspection and enforcement control measures.
4. Sanctions to ensure compliance with local regulatory requirements (established in the ordinance or other regulatory mechanism).
5. Procedures for the receipt and consideration of information submitted by the public.

USEPA Guidelines

Regulatory Mechanism – Through the development of an ordinance or other regulatory mechanism, the small MS4 operator must establish a construction program that controls polluted runoff from construction sites with a land disturbance of greater than or equal to one acre.

Site Plan Review – The small MS4 operator must include in its construction program requirements for the implementation of appropriate BMPs on construction sites to control erosion and sediment and other wastes at the site.

Inspections and Penalties – Once construction commences, BMPs should be in place and the small MS4 operator's enforcement activities should begin. To ensure that the BMPs are properly installed, the small MS4 operator is required to develop procedures for site inspection and enforcement of control measures to deter infractions.

Information Submitted by the Public – A final requirement of the small MS4 program for construction activity is the development of procedures for the receipt and consideration of public inquiries, concerns, and information submitted regarding local construction activities.

Action Plan [BMP's] for Construction Site Storm Water Runoff Management

Regulatory Mechanism

West Bountiful City will establish rules and regulations and develop best management practices including ordinances that dictate requirements for all construction sites disturbing greater than one acre and the respective inspection and enforcement of these sites. The rules, regulations and ordinances will address such items and submittal of an erosion control plan, perimeter protection, filter berms, mulching, construction waste disposal, spill prevention, sediment traps, and construction sequencing.

Inspection and Penalties

West Bountiful City staff will assume the responsibility for approval of land disturbance activity, plan review, sediment and erosion control review, including maintenance inspections, and enforcement for the City area. Familiarity with the

local infrastructure and having staff visit project sites makes site inspections and enforcement much more effective.

Develop Contractor Education Programs

West Bountiful City will develop an education program directed at area contractors. Contractors shall be educated on the detrimental effects of sediment transport and informed of the new one-acre threshold used for land disturbance permit requests. An informative presentation with evidence on sediment transport should help alter views on proper construction and maintenance of these controls. Contractors will also be updated on any new fines or penalties for non-compliance that result from new regulations adopted by the West Bountiful City or other local agencies.

Develop the Construction/Post construction ordinance

West Bountiful City will develop an inspection schedule to review all control structures within the community. As previously mentioned in the

Table 4 Construction Site Runoff Control

Measurable Goals	Schedule
Establish regulations and best management practices methods requiring the proper implementation of sediment and erosion controls for construction sites with a land disturbance greater than or equal to one acre as authorized by the storm water ordinance. Create a list of Best Management Practices that will be adopted as authorized by the Storm Water Ordinance.	
Using the ordinance outlining the general provisions for construction site storm water runoff control, develop procedures for site plan review of construction plans that consider potential water quality impacts.	

Supporting information for this minimum control measure may be found in Appendix "D"

Method for determining success of the measurable goals for Minimum Measure #4

1. The Construction Site Storm Water Runoff Control ordinance has been adopted by the City Council.
2. A list of appropriate BMP's have been selected and included in a booklet or brochure format for reference by contractors, engineers and inspectors.
3. The City Public Works inspector has been trained and shown competency in the knowledge of BMP implementation and the intended result of the BMP.
4. All site plans submitted for development of one acre or larger will include an Erosion Control Plan (ECP) which will be reviewed, modified (if needed) and approved prior to the final approval of any site disturbance.
5. All contractors working on a site of 1 acre or larger will be trained on the need to restrict construction site runoff and to follow the approved ECP for the specific site.
6. A visual inspection of any receiving stream or storm sewer collection system will verify the effectiveness of the overall ECP.

CHAPTER 5

Minimum Measure #5 – Post-Construction Storm Water Management

Post construction storm water management is necessary because runoff from areas undergoing development has significantly impacted receiving waterbodies. This impact typically occurs in two forms. The first impact is due to an increase in the type and quantity of pollutants in storm water runoff. As water flows over these sites, it transports harmful contaminants such as oil and grease, pesticides, heavy metals, and various nutrients, (e.g., nitrogen and phosphorous). These pollutants become suspended in the runoff and are conveyed to receiving water bodies, such as lakes and creeks. The second post-construction impact typically occurs as a result of increased storm water runoff rates and volume due to an increase in impervious surfaces. This increase in runoff has not only been shown to interrupt the natural water balance of percolation into the ground, but also to impact the receiving waterbody through streambank scouring and downstream flooding.

USEPA Requirements

The Storm Water Phase II rule requires the following to comply with this minimum measure:

1. Develop and implement strategies which include a combination of both structural and nonstructural BMPs.
2. Create an ordinance or other regulatory mechanism requiring the utilization of post construction controls.
3. Ensure adequate long-term operation and maintenance of the controls.
4. Determine the appropriate best management practices (BMPs) and measurable goals for this minimum control measure.

USEPA Guidelines

It is important to recognize that many BMPs are climate-specific, and not all BMPs are appropriate in every geographic area. Because the requirements of this measure are closely tied to the requirements of the construction site runoff control minimum measure, EPA recommends that small MS4 operators develop and implement these two measures in tandem.

Non-Structural BMP's

Planning and Procedures – Runoff problems can be addressed efficiently with sound planning procedures. Master Plans, Comprehensive Plans, and zoning ordinances can promote improved water quality by guiding growth of a community away from sensitive areas and by restricting certain types of growth (industrial, for example) to areas that can support it without compromising water quality.

Site-Based Local Controls – These controls can include buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space.

Structural BMPs

Storage Practices – Storage or detention BMPs control storm water by gathering runoff in wet ponds, dry basins, or multichamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices both control storm water volume and settle out particulates for pollutant removal.

Infiltration Practices – Infiltration BMPs are designed to facilitate the percolation of runoff through the soil to ground water, and, thereby, result in reduced storm water quantity and reduced mobilization of pollutants.

Vegetative Practices - Vegetative BMPs are landscaping features that, with optimal design and good soil conditions, enhance pollutant removal, maintain/improve natural site hydrology, promote healthier habitats, and increase aesthetic appeal.

Filtration Practices - Bioretention areas are landscaping features adapted to provide on-site treatment of storm water runoff. They are commonly located in parking lot islands or within small pockets of residential land uses. Surface runoff is directed into shallow, landscaped depressions. These depressions are designed to incorporate

many of the pollutant removal mechanisms that operate in forested ecosystems. During storms, runoff ponds above the mulch and soil in the system. Runoff from larger storms is generally diverted past the facility to the storm drain system. The remaining runoff filters through the mulch and prepared soil mix. Typically, the filtered runoff is collected in a perforated underdrain and returned to the storm drain system.

Dry Ponds (Detention Basins) - Dry extended detention ponds (a.k.a. dry ponds, extended detention basins, detention ponds, extended detention ponds) are basins whose outlets have been designed to detain the storm water runoff from a water quality design storm for some minimum time (e.g., 24 hours) to allow particles and associated pollutants to settle. Unlike wet ponds, these facilities do not have a large permanent pool. However, they are often designed with small pools at the inlet and outlet of the basin. They can also be used to provide flood control by including additional flood detention storage.

Action Plan [BMP's] for Post Construction Runoff Control

Develop Adequate Post Construction Program

To maintain the effectiveness of postconstruction storm water control best management practices (BMPs), regular inspection of control measures is essential. Generally, inspection and maintenance of BMPs can be categorized into two groups—expected routine maintenance and nonroutine (repair) maintenance. Routine maintenance refers to checks performed on a regular basis to keep the BMP in good working order and aesthetically pleasing. In addition, routine inspection and maintenance is an efficient way to prevent potential nuisance situations (odors, mosquitoes, weeds, etc.), reduce the need for repair maintenance, and reduce the chance of polluting storm water runoff by finding and correcting problems before the next rain.

Develop perimeter / sediment controls

Ordinances or other regulatory mechanisms will be developed that require implementation of structural and non-structural BMPs that address water quality. An example would be an ordinance that requires riparian buffer strips along the perimeter of all major streams. This could include a 10 or 20 foot strip of land measured from the top of the stream bank that could not be disturbed. Other potential BMPs could include grassy swales and the requirement of artificial wetlands for pertinent circumstances.

Develop standard drawings for control structures

Ordinances or other regulatory mechanisms will be developed that require implementation of structural and non-structural BMPs that address water quality. An example would be an ordinance that requires riparian buffer strips along the perimeter of all major streams.

Develop wetland type filtering sediment controls

Ordinances or other regulatory mechanisms will be developed that require implementation of structural and non-structural BMPs that address water quality. An example would be an ordinance that requires riparian buffer strips along the perimeter of all major streams.

Develop post construction inspection requirements

Ordinances or other regulatory mechanisms will be developed that require implementation of structural and non-structural BMPs that address water quality. An example would be an ordinance that requires riparian buffer strips along the perimeter of all major streams.

Table 5 Post-Construction Runoff Control

Measurable Goals	Schedule
Adopt an ordinance or other regulatory mechanism requiring the utilization of post construction controls. Review the Storm Sewer Utility fee schedule to assure adequate financial support to the operation and	

Measurable Goals	Schedule
maintenance of structural controls.	
Prepare specific BMP's for infiltration practices, vegetative practices, filtration practices, and dry pond practices.	
Prepare and publish standard drawings for control structures	
Develop wetland type filtering sediment controls	
Implement an inspection program to ensure adequate compliance to the post construction ordinance requirements and structural controls.	

Supporting information for this minimum control measure may be found in Appendix "E"

Method for determining success of the measurable goals for Minimum Measure #5

1. The control aspects of the Jessi's Meadow nature park will be photographed and documented to show how various controls are implemented.
2. The storm drain map will show the location of all structural control features.
3. The City Public Works department will routinely inspect all structural control devices and complete necessary cleaning and repairs.
4. The Storm Sewer Utility fee will be reviewed annually and kept at a level sufficient to maintain the storm sewer system.
5. An ordinance or policy manual will be created that requires the utilization of post construction controls.
6. A Best Management Practices manual will be created which shows the use of ponds, filtration, infiltration, and vegetative practices.
7. A review of the zoning and development standards will be reviewed by the Planning Commission with input from the Storm Water Advisory Committee.

CHAPTER 6

Minimum Measure #6 – Pollution Prevention / Good Housekeeping

The final control measure required by the NPDES/UPDES Phase II program involves the examination and possible alteration of municipal operations. This measure requires that municipalities evaluate their actions to ensure a reduction in the amount and type of pollution that accumulates on streets, parking lots, open spaces, and storage and vehicle maintenance areas that discharge into local waterbodies. In addition, this measure requires an evaluation of results from land development actions that may be environmentally damaging. The primary intent of the USEPA with this measure is to improve and protect water quality by altering the performance of municipal operations. However, the USEPA also feels that this measure could result in increased cost savings for municipalities through proper and timely maintenance of storm sewer systems.

USEPA Requirements

The Storm Water Phase II rule requires the following to comply with this minimum measure:

1. Develop and implement an operation and maintenance program with the objective of preventing or reducing pollutant runoff from municipal operations into the municipal storm sewer system.
2. Include employee training on how to incorporate pollution prevention / good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.
3. Determine the appropriate BMPs and measurable goals for this minimum control measure.

USEPA Guidelines

EPA encourages the small MS4 operator to consider the following components when developing their program for this measure:

1. Maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural controls to reduce floatables and other pollutants discharged from the separate storm sewers.
2. Controls for reducing or eliminating the discharge of pollutants from areas such as roads and parking lots, maintenance and storage yards (including salt/sand storage and snow disposal areas), and waste transfer stations.
3. Procedures for the proper disposal of waste removed from separate storm sewer systems.
4. Ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporation of additional water quality protection devices or practices.

Action Plan [BMP's] for Pollution Prevention/Good Housekeeping

Municipal Staff Education Programs

West Bountiful City will establish a training program for their staff regarding the importance of storm water pollution prevention and good housekeeping. EPA recommends training for staff members who deal with parks and open space, the fleet maintenance center, new construction, and storm sewer maintenance. Group programs could be presented or videos could be developed to be viewed by new employees during orientation. Programs for parks and open space could focus on BMPs related to nutrient loadings and proper use of herbicides and pesticides.

Facility inspection

Implement an inspection program to ensure adequate longterm operation and maintenance of structural controls.

Street Sweeping

West Bountiful City has implemented a semi-annual street sweeping operations. The City should continue this program.

Table 6 Pollution Prevention/Good Housekeeping

Measurable Goals	Schedule
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Measurable Goals	Schedule
Implement an operation and maintenance program to prevent or reduce pollutant runoff from municipal operations.	
Implement an inspection program to ensure adequate longterm operation and maintenance of structural controls.	
Street Sweeping program	

Supporting information for this minimum control measure may be found in Appendix "F"

Method for determining success of the measurable goals for Minimum Measure #6

1. The selected BMP's address the needs of the community.
2. The employees are trained and accept "ownership" in the prevention of storm water pollution.
3. The street sweeping activity continues as a funded responsibility.
4. All new employees are introduced to the duties for pollution prevention.

SECTION C – SWMP Review and Modifications

The City shall complete an annual review of the current SWMP. The review shall include (a) a review of the status of program implementation and compliance with the schedule-of-compliance contained in the SWMP; (b) a review of any revisions or changes of BMP's in the reporting year and an assessment of the changes or revisions for effectiveness; and (c) an overall assessment of the goals and direction of the SWMP and the effectiveness of the BMP's.

The SWMP may be modified by adding or subtracting a component, BMP, or requirement to the SWMP at any time in accordance with the following provision. Adding a BMP or other component to the SWMP can be made at any time provided the BMP or component is defined in writing. Subtracting a BMP or component identified in the SWMP must be made in written notice submitted to the Executive Secretary of the Division of Water Quality prior to the change. The subtraction shall be supported by justification explaining why the item is removed and evaluating the level of performance of any replacement item, all in accordance with Part IV.C.2 of the General Permit.

SECTION D – Annual Report

The City will prepare an annual system-wide report to be submitted by April 1st of each year. The report shall include (a) a current copy of the SWMP, (b) the status and assessment of BMP implementation (are BMP's being implemented as planned, what is the status of any schedules of implementation.) (c) Annual expenditures for permit compliance for the prior year and the projected budget for the following year, (d) a summary of activities, progress and accomplishments in each of the minimum control measures #1 through #6.

The communities in Davis County that will be regulated under the Storm Water Phase II regulations must submit a Notice of Intent (NOI) to the Division of Water Quality by March 10, 2003. The NPDES/UPDES Phase II rule will allow a permittee to implement the identified BMPs over the five-year period of 2003 - 2008.

As a funding structure, the City's storm water utility provides a funding mechanism and user fee rate needed to fit specific needs of the existing storm water program and the impending NPDES/UPDES Phase II Storm Water requirements. In developing rate structures, there are two key issues to consider. These issues are;

- The rate methodology must be equitable and easy to understand. It is important that the public understands and perceives the rate methodology to be fair. This provides for a quicker and more complete acceptance by the public.
- The rate methodology must be capable of generating sufficient revenue to cover the projected budget and must be within the willingness and ability of the community to pay.

Funding Mechanism

A combination of a storm water user fee and plan review and inspection fees is the recommended funding mechanism to pay for the cost of implementing the NPDES/UPDES program and supplementing the region's growing storm water system needs. West Bountiful City has decided to utilize an impervious area rate methodology as the basis for funding the regional storm water utility. Storm water fees will be determined by calculating the total impervious area contained within an individual parcel. The rate structure will include procedures for challenging fees and for obtaining "credits" to reduce the effective fee.

SECTION E – SWMP Implementation Schedule Review, Enforcement and Modification

The City shall make all possible efforts to schedule SWMP activities on a reasonable schedule. Items shall be prioritized and implemented on an annual basis to achieve full implementation within the initial five year permit period.

The City acknowledges that should the Executive Secretary find deficiencies to the program structure and implementation

schedule, a compliance time frame to update the program and schedule may be issued and failure to comply will result in enforcement action.

The SWMP implementation schedule may be modified by adding or subtracting components to the schedule plan. Written notice shall be provided the Executive Secretary with explanation for the change, all in accordance with Part IV.E.2 of the General Permit.

SECTION F – Legal Authority

By approving this SWMP, West Bountiful City insures that legal authority exists to control discharges to and from the Municipal Separate Storm Sewer System (MS4). This legal authority is a combination of statute, ordinance, permits, contracts orders and/or interlocal cooperation agreements.

SECTION G – Qualifying Local Programs

West Bountiful City may allow operators of small MS4 units to follow and be part of the City's SWMP.

SECTION H – Sharing Responsibility

West Bountiful City is sharing responsibilities for the following activities with other agencies through an executed interlocal cooperation agreement:

NO INTERLOCAL AGREEMENTS IN PLACE AT THIS TIME

APPENDIX “A” – Public Education and Outreach

The following information will be added to this appendix.

1. Listing of Civic groups
2. Listing of targeted business
3. Copies of brochures to be distributed during the spring and fall
4. Copies or descriptions of pamphlets distributed to West Bountiful Elementary

APPENDIX “B” – Public Involvement and Participation

The following information will be added to this appendix.

1. The names of the members appointed to the Storm Water Advisory Committee
2. Copies of invitations sent to local business and civic groups
3. A copy of the Soil and Water Conservation Merit Badge requirements
4. A copy of the Water Drop patch requirements
5. A copy of the preferred storm drain inlet stencil message

APPENDIX “C” – Illicit Discharge Detection and Elimination

The following information will be added to this appendix.

1. A copy of the storm sewer system map.
2. The ordinance restricting illicit discharge.
3. The copy of the small business guide to pollution prevention.
4. A list of detected illicit discharge points found during visual inspection.
5. A list of corrected illicit discharge points.

APPENDIX “D” – Construction Site Storm Water Runoff Control

The following information will be added to this appendix.

1. A copy of the rules and regulations concerning construction site runoff control.
2. A review list for contractor training.
3. Copies of acceptable best management practices
 - a. inlet filters
 - b. filter berms
 - c. perimeter silt fences
 - d. entrance tire cleaning
 - e. sediment traps
 - f. construction phasing
4. Site inspection procedures checklist

APPENDIX “E” – Post-Construction Storm Water Management

The following information will be added to this appendix.

1. Adopted BMP's for infiltration practices
 - a. Retention/Detention basins
 - b. Infiltration ditches
2. Adopted BMP's for vegetative practices.
 - a. Grass swales
 - b. Nature park areas
 - c. Grass parkways/trail system
3. Adopted BMP's for dry ponds
4. Maintenance guidelines
5. Ordinances for post-construction maintenance responsibility

APPENDIX “F” – Pollution Prevention/Good Housekeeping

The following information will be added to this appendix.

1. Street sweeping program schedule with susceptible streets identified.
2. Selected BMP's for the City's housekeeping procedures
 - a. Control of office generated waste, (toner, cleaners, paper, equipment)
 - b. Building site cleanup, watering, fertilizer, pesticides
 - c. Vehicle maintenance area cleaning
 - d. Park maintenance procedures
 - e. Visual inspection techniques
3. Copies of employee training guidelines
4. Copies of any adopted municipal-owned facility storm water management plan