American Fork City

STORM WATER MANAGEMENT PROGRAM

ADOPTED BY THE AMERICAN FORK CITY COUNCIL
April 27, 2004

J-U-B ENGINEERS, Inc.
ENGINEERS • SURVEYORS • PLANNERS

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PART 1 INTRODUCTION

The American Fork Storm Water Management Program was first developed in 2003 in response to the EPA Storm Water Phase II Rule. It consists of practices intended to reduce storm water runoff quantity and to improve storm water runoff quality in American Fork. Incorporated into the Program are certain storm drainage design criteria and development plan requirements that were previously contained in the American Fork Land Development Policies, Standard Specifications and Drawings Manual.

A. STORM WATER PHASE II OVERVIEW

The Environmental Protection Agency (EPA) published the Storm Water Phase II Rule on December 8, 1999. The Utah Department of Environmental Quality acts as the administrator of the program for the EPA in the State of Utah. To comply with the requirements of the Phase II Rule, municipalities must obtain an "Authorization to Discharge Municipal Storm Water under the Utah Pollutant Discharge Elimination System (UPDES)" from the State of Utah.

The Storm Water Phase II Rule requires municipalities in urbanized areas to develop and implement a Storm Water Management Program (SWMP). The SWMP is the most substantial part of the UPDES Permit.

The SWMP must address six minimum control measures:

1. Public education and outreach on storm water impacts
2. Public involvement/participation
3. Illicit discharge detection and elimination
4. Construction site storm water runoff control
5. Post-construction storm water management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

Municipalities must develop Best Management Practices (BMPs) to address the requirements of each of these six minimum control measures. They must also establish measurable goals for the BMPs. Municipalities must conduct a review of the effectiveness of the SWMP, and submit a corresponding report to the State annually. The SWMP must be updated every 5 years.

B. OVERVIEW OF STORM WATER MANAGEMENT PROGRAM

The American Fork Storm Water Management Program (SWMP) is organized to fit the organization and needs of American Fork City. The plan consists of the following parts:

Part 1. Introduction

Part 2. Public Education and Outreach Practices

These are practices of American Fork City to educate and involve the public and targeted groups on storm water issues.

Part 3. Storm Water System Management Practices

These are the regulatory, planning and physical system practices that provide the framework of the City's storm drainage system.

Part 4. Storm Water Operations Practices

These are practices that the American Fork City Public Works Department Staff follows that are intended to result in a storm water quality benefit.

Part 5. Storm Water Technical Manual

This contains requirements for land development and construction activities.

Part 6. Construction and Post Construction Best Management Practices

This contains the BMP fact sheets that would be used during land development and construction activities.

Part 7. Summary of Best Management Practices and Measurable Goals

This part contains the text of the Storm Water Phase II Rule, summarizes how the American Fork SWMP meets the Phase II Rule and contains the implementation schedule

Part 8. Annual Progress Reports

This part contains space to keep copies of the annual reports that are submitted to the State.

Appendix A. Utah County Storm Water Coalition Contributions

Appendix B. BMP Reporting Forms

The American Fork Storm Water Management Program (SWMP) was developed over the course of nearly one year. A Steering Committee consisting of American Fork City Staff and J-U-B Engineers first met in January 2003 to begin development of the SWMP. The Steering Committee met on a regular basis from that time through completion of the SWMP in March, 2004. American Fork City asked 6 citizens, representing different interests in the community, to serve on an Advisory Committee. The Advisory Committee first met in September 2003 to receive an introduction to the Storm Water Phase II Rule and the task of preparing a Storm Water Management Program. They met again in October 2003 to provide input to the development of the Program, and again in March 2004 to provide feedback on a draft program. Two public open houses were held to educate the public on storm water issues and to solicit public comment on the Program. The City Council adopted the American Fork City Storm Water Management Program on April 27, 2004.

C. DESCRIPTION OF AMERICAN FORK

American Fork was settled by Mormon pioneers in 1850 and incorporated on June 4, 1853. The 2000 census listed the population at 21,941.

American Fork is located on the northerly bank of Utah Lake. Neighboring cities include: Lehi, Highland, Cedar Hills, Pleasant Grove and Lindon. American Fork is currently approximately 7.5 square miles in size. Two significant transportation corridors pass through American Fork: Interstate 15 and State Street. Many irrigation canals and ditches traverse the city. These irrigation facilities have historically been used to convey storm water.

Land along major streets is typically developed commercially. Remaining areas are typically developed residentially. Other types of land uses exist within the city such as schools, churches, etc. The majority of remaining undeveloped land in American Fork is in agricultural use.

American Fork City operates a culinary water system throughout the City, and is in the planning process for a secondary water system. Nearly all development in American Fork is connected to the sanitary sewer system, which discharges to the Timpanogos Special Services District (TSSD) Wastewater Treatment Facilities.

American Fork's storm drainage conveyance system consists of curbed streets, piped storm drains, sumps and open drainages. Some of these facilities are irrigation facilities which double as storm drain facilities. Storm water from Highland, Lehi, Pleasant Grove and Cedar Hills runs through American Fork on its way to Utah Lake.

The land in American Fork has varying slopes. Some of the land is quite steep, while other land has slopes of less than 1% approaching Utah Lake. American Fork averages around 12 inches of annual precipitation at Utah Lake, and the amount of precipitation increases slightly as elevation increases.

PART 2 PUBLIC EDUCATION AND OUTREACH PRACTICES

A. INTRODUCTION

The objective of American Fork City's Public Education and Outreach Practices is to educate the public and targeted groups about the impacts of storm water discharge, what steps they can take to reduce storm water pollution, and how they can get involved to make a difference in reducing storm water pollution. It also includes activities to involve the public in development and review of the American Fork Storm Water Management Program.

This chapter describes the Best Management Practices (BMPs) that make up American Fork City's Public Education and Outreach Practices. It also lists measurable goals for each best management practice and the planned schedule of meeting the goals. Note that for Best Management Practices that are already established practices in American Fork, the measurable goal consists of continuing the practice, and the implementation schedule simply indicates that the BMP is "in place, continuing annually".

All of the Best Management Practices contained in American Fork City's Public Education and Outreach Practices apply to activities of American Fork City or the Utah County Storm Water Coalition, as opposed to the activities of those in the private construction industry.

B. BEST MANAGEMENT PRACTICES

The following pages describe the Best Management Practices contained in the Public Education and Outreach Practices, and the associated Measurable Goals, planned Implementation Schedules, and anticipated Resource Requirements.

Some of the Best Management Practices in the Public Education and Outreach Practices depend on participation by the Utah County Storm Water Coalition. See APPENDIX A. UTAH COUNTY STORM WATER COALITION CONTRIBUTIONS for a letter from Utah County containing their committed contributions and a copy of the Utah County Storm Water Management Program.

1. Community-Based Outreach Activities to Educate the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Distribute informational and educational materials in utility bill mailings	Educational materials promote public awareness of storm water issues.	Include materials in at least 2 mailings per year	December 2004; semi-annually thereafter	Information will be supplied by Utah County, copies and postage by the City.	X					
B. Promote water conservation practices	Reducing excess runoff from landscaped areas may reduce the carry of lawn chemicals to the storm drainage system	1. Establish graduated water rates. 2. Include materials in utility bill mailing at least once per year	1. May 2005 2. In place; continue annually	City will need to obtain or develop the information.	X					
C. Support Utah County Storm Water Coalition	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City	1. Establish inter-local agreement with Utah County 2. Pay annual assessment	1. April 2004 2. July 2003; annually thereafter	Pay annual assessment to County.	X					
D. BMPs performed by Utah County. See the Utah County Storm Water Management Program	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City	See Utah County Storm Water Management Program	See Utah County Storm Water Management Program	Pay annual assessment to County.	X					

2. Community-Based Outreach Activities to Involve the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Sponsor community clean-up activities	In clean-up projects, volunteers collect and dispose of debris that might otherwise enter the storm water system	Sponsor annually	October 2003; annually thereafter	In place.		X				
B. Sponsor marking storm drain inlets with decals	Marking the inlets will increase public awareness of storm water contamination potential	1. Mark 10% of all known inlets per year 2. Require marking of all new inlets by land developers	1. October 2003; annually thereafter 2. In place	City must purchase the decals through the County or another supplier.		X				
C. Coordinate the presentation of educational materials and displays in schools and at events	Involving school children and the public in storm water discussions promotes public awareness of storm water issues	1. Provide annual training to high school students, who will present to 5th graders 2. Provide an informational display at one event per year	1. June 2005; annually thereafter 2. June 2005; annually thereafter	Materials will be developed by the County. Materials given away must be purchased by the City. City personnel will be required to coordinate the displays.	X	X				

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
D. Provide opportunities for public review of SWMP during its creation	This provides an opportunity for public comment	Conduct two public hearings during development of the SWMP	October 2004	City personnel will be required to man and coordinate the open houses.		X				
E. Form and use an Advisory Committee to help develop the SWMP	This provides an opportunity for public involvement and input on the SWMP	Hold 3 meetings of the committee	October 2003-May 2004	City personnel will be required to attend the advisory committee meetings.		X				
F. BMPs performed by Utah County. See the Utah County Storm Water Management Program	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City	See Utah County Storm Water Management Program	See Utah County Storm Water Management Program	Pay annual assessment.	X	X				

C. CONCLUSION

American Fork City will measure progress towards each of the goals outlined in PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES. Forms for recording progress are found in APPENDIX B, BMP REPORTING FORMS. These forms will then be used to compile the annual report to the State.

American Fork City's Public Education and Outreach Practices satisfy, in part, two of the six minimum control measures established by the Storm Water Phase II Rule. PART 7, SUMMARY OF BEST MANAGEMENT PRACTICES AND MEASURABLE GOALS, shows how the best management practices correlate with the six minimum control measures.

PART 3 STORM WATER SYSTEM MANAGEMENT PRACTICES

A. INTRODUCTION

The American Fork City Storm Water System Management Practices are the regulatory, planning and physical system practices that provide the framework of the City's storm drainage system.

The regulatory practices consist of the storm water ordinance and the storm water technical manual, which establishes the requirements of developing and developed land relative to storm water.

Planning practices relate to mapping and master planning the storm drainage system.

Physical system practices consist of activities associated with preserving and improving the storm drainage system in a way consistent with the storm drainage master plan.

This chapter describes the Best Management Practices (BMPs) that make up American Fork City's Storm Water System Management Practices. It also lists measurable goals for each Best Management Practice, and the planned schedule of meeting the goals. Note that for Best Management Practices that are already established practices in American Fork, the measurable goal consists of continuing the practice, and the implementation schedule simply indicates that the BMP is "in place, continue annually".

All of the Best Management Practices contained in American Fork City's Storm Water System Management Practices apply to activities of American Fork City, as opposed to the activities of those in the private construction industry.

B. BEST MANAGEMENT PRACTICES

The following pages describe the Best Management Practices contained in the Storm Water System Management Practices, and the associated Measurable Goals, planned Implementation Schedules, and anticipated Resource Requirements.

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Develop and follow a program to identify and eliminate illicit discharges	A written program facilitates successfully identifying and eliminating illicit discharges	1. Adopt an ordinance controlling storm water discharge 2. Complete a written document containing the program	1. January 2005 2. January 2005	City will need to develop and adopt an ordinance and a program.			X			
B. Encourage residents to switch from septic systems to city sewer by assessing sewer fee to users of septic systems who have access to the sewer	Eliminating septic systems reduces the potential of storm water pollution due to septic system failure	Fee structure is already in place	In place, continue annually	In place.			X			
C. Promote proper discharge of the sanitary sewer waste at the boat harbor and at mass gatherings by providing facilities to appropriately discharge sanitary waste	Proper disposal of sanitary waste keeps it out of the storm drainage system	1. Restroom exists at the boat harbor 2. Establish contract annually to provide chemical toilets at mass gathering locations	1. In place, continue annually 2. October 2003 maintain annually	City will need to coordinate and pay for chemical toilets as needed.			X			
D. Regulate sanitary sewer discharge by City Ordinance	Proper disposal of sanitary waste keeps it out of the storm drainage system	Adopt ordinance regulating sanitary sewer discharge	In place, continue annually	No additional resources required.			X			X
E. Assess a storm drain utility, backed by City Ordinance, which encourages regulation of storm water discharges	Promotes reduction in quantity and improvement in quality	Adopt ordinance	In place, continue annually	No additional resources required.		X			X	X
F. Distribute free landfill passes to residents	Free landfill passes encourage proper disposal of waste	Document number of citizens receiving passes annually	October 2004 In place, continue annually	No additional resources required.		X			X	X

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
G. Develop alternate road cross section without curb and gutter for undeveloped parts of town	May reduce storm water runoff quantity and improve quality	Adopt alternate road cross section	June 2004	Add alternate cross-sections to construction standards.					X	
H. Promote open space by City Ordinance encouraging clustering and allowing TDR's.	Reduce storm water runoff quantity and improve quality	Adopt ordinance	January 2005	Dependent upon adoption of an ordinance by City Council.					X	
I. Zones requiring larger lots.	May reduce storm water runoff quantity and improve quality	Adopt the General Plan Amendment	January 2005	Dependent upon adoption of an ordinance by City Council.					X	

2. Planning Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Map the Storm Drainage System	Mapping a system is essential to effectively managing it	1. Map inlets in one-third of the city per year 2. Develop program to map storm drainage system	1. October 2004; annually for 2 years thereafter 2. October 2003	City will need to provide man power for mapping the system, or contract with a survey firm to do the mapping.			X			X

C. CONCLUSION

American Fork City will measure progress towards each of the goals outlined in PART 3, STORM WATER MANAGEMENT PRACTICES. Forms for recording progress are found in APPENDIX B, BMP REPORTING FORMS. These forms will then be used to compile the annual report to the State.

American Fork City's Storm Water System Management Practices satisfies, in part, four of the six minimum control measures established by the Storm Water Phase II Rule. PART 7, SUMMARY OF BEST MANAGEMENT PRACTICES AND MEASURABLE GOALS, shows how the Best Management Practices correlate with the six minimum control measures.

PART 4 STORM WATER OPERATION PRACTICES

A. INTRODUCTION

American Fork City's Storm Water Operation Practices contains practices that the American Fork City Public Works Department Staff follows that are intended to result in a storm water benefit. It documents the storm water related operation and maintenance procedures that are expected to produce a storm water quantity and quality benefit. It also outlines inspection procedures intended to improve compliance with storm water requirements. Finally, it establishes a schedule of public employee training and includes a spill prevention plan.

This chapter describes the Best Management Practices (BMPs) that make up American Fork City's Storm Water Operation Practices. It also lists measurable goals for each Best Management Practice, and the planned schedule of meeting the goals. Note that for Best Management Practices that are already established practices in American Fork, the measurable goal consists of continuing the practice, and the implementation schedule simply indicates that the BMP is "in place, continue annually".

All of the Best Management Practices contained in American Fork City's Storm Water Operation Practices apply to activities of American Fork City, as opposed to the activities of those in the private construction industry.

B. BEST MANAGEMENT PRACTICES

The following pages describe the Best Management Practices contained in the Storm Water Operation Practices, and the associated Measurable Goals, planned Implementation Schedules, and anticipated Resource Requirements.

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Master plan the storm drainage system	Master planning facilitates effective system development	Adopt the storm drain element of the general plan.	June 2004	A contract has already been let for this work.						X
B. Clean storm water facilities	Cleaning facilities removes pollutants temporarily trapped in the system	1. Develop the maintenance procedure 2. Document maintenance activities	1. November 2006 2. October 2007; annually thereafter	No additional resources required.						X
C. Regulate storm water discharge and require pretreatment	These are direct pollution prevention measures	Adopt ordinance regulating storm water discharge.	January 2005	No additional resources required.					X	X
D. Incorporate City-managed wetlands in the storm water system	Wetlands can provide a storm water quality benefit	1. Keep current city-managed wetlands 2. Document the number of acres of new wetlands acquired.	1. Ongoing 2. October 2004; annually thereafter	No additional resources required.					X	X
E. Sweep streets	Cleaning materials from street surfaces keeps it out of the storm drainage system	Document the number of hours spent annually	October 2004; annually thereafter	No additional resources required.						X
F. Provide non-sanitary waste disposal facilities on City properties	Proper disposal waste keeps it out of the storm drainage system	1. Document the number of garbage receptacles placed on city properties annually. 2. Document tons of waste emptied from dumpsters annually	1. October 2004; annually thereafter 2. October 2004; annually thereafter	No additional resources required.						X

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
G. Include measures to improve water quality in new detention areas	Trapping pollutants provides a direct benefit	Add measures to construction standards	October 2004	No additional resources required.					X	X

2. Inspection & Enforcement Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Develop a set of standard BMPs that can be incorporated into construction projects	As a whole, these BMPs will reduce storm water pollution	Add pertinent BMPs to construction standards document	October 2004	The City has contracted with J-U-B Engineers to complete this item.				X		
B. Review development plans	This helps developers build good practices into their designs	Document process to incorporate review of plans for adequate storm water protection	October 2004	City needs to develop process to document review procedure.				X		
C. Discuss BMPs in preconstruction review meetings	This provides a forum to discuss storm water issues & expectations with the owner and contractors just prior to construction	Discuss applicable BMPs in all preconstruction review meetings	In place	No additional resources required.				X		

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
D. Inspect sites during construction to enforce sediment control and proper disposal of construction waste	Controlling sediment and proper disposal of construction waste helps keep these materials out of the storm drainage system	1. Train Public Works and Building Department employees annually on how to watch for and respond to storm water pollution problems 2. Inspect each new construction site at least once	1. March 2005 2. As development occurs	City will need to develop a plan to train employees to complete these inspections during regular inspection efforts.				**X**		
E. Require bonding that will be held until final cleanup of construction sites	The bond encourages contractors to maintain a clean site and to clean up at the conclusion of the project	Adopt ordinance requiring bonding	In place	No additional resources required.				**X**		

3. Public Employee Training Program

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Train city employees on storm water issues	Promotes awareness of storm water issues	1. Train Public Works and Building Department employees annually 2. Distribute written information to all employees twice a year.	March 2005; annually thereafter	Add discussion of storm water issues to annual training meeting.						X

4. Spill Prevention Plan

Best Management Practice	Justification	Measurable Goal	Implementation Schedule	Resource Requirements	Min Control Measure					
					1	2	3	4	5	6
A. Properly dispose of oils, solvents, antifreeze, etc. from municipal works	Proper disposal of these materials keeps them out of the storm drainage system	Maintain contracts with companies who dispose of such materials	October 2004; annually thereafter	This contract is in place. No additional resources required.						X

C. CONCLUSION

American Fork City will measure progress towards each of the goals outlined in PART 4, STORM WATER OPERATION PRACTICES. Forms for recording progress are found in APPENDIX B, BMP REPORTING FORMS. These forms will then be used to compile the annual report to the State.

American Fork City's Storm Water Operation Practices satisfies, in part, three of the six minimum control measures established by the Storm Water Phase II Rule. PART 7, SUMMARY OF BEST MANAGEMENT PRACTICES AND MEASURABLE GOALS, shows how the Best Management Practices correlate with the six minimum control measures.

PART 5 STORM WATER TECHNICAL MANUAL

A. INTRODUCTION

The Storm Water Technical Manual contains requirements for land development and construction activities, as well as design criteria and guidelines for those performing such activities. The manual also includes Best Management Practices applicable to development and construction activities along with submittal requirements for the plan. The City Engineer has authority to modify the requirements of the Storm Water Technical Manual as needed to accomplish reasonable and effective storm water pollution prevention objectives.

B. REQUIREMENTS FOR PROPOSED DEVELOPMENTS

1. Incorporate best management practices (BMPs) into development design to limit quantity of runoff and improve the quality of runoff

Storm water Best Management Practices (BMPs) must be considered throughout the development process. American Fork City requires some BMPs on all developments and generally encourages others, as listed in Section E, Storm Water Performance Criteria and Design Guidelines. American Fork City also encourages the use of BMPs other than those listed that may be suitable for a particular development. Engineering judgment must be used in selecting BMPs for a given development. Fact sheets describing the BMPs are found in PART 6, CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES. Note that the BMP fact sheets are listed alphabetically in PART 6 according to the BMP code.

2. Prepare Construction Site Storm Water Management Plan

A Construction Site Storm Water Management Plan must be prepared and submitted with the development plans for approval. See section F of this chapter, CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN CONTENTS for the required elements of the plan.

3. Provide financial guarantee that improvements contained in the Construction Site Storm Water Management Plan will be installed and maintained

Financial guarantee must be posted with American Fork City prior to beginning construction. In the case of a subdivision of land, this will be included in the bond that is required for the cost of the subdivision improvements. In the case of site improvements, rather than a financial guarantee, non-monetary methods of enforcement already in place in American Fork City (business licenses, utility services, building and occupancy permits) are available to encourage compliance with

the improvements contained in the approved Construction Site Storm Water Management Plan.

At the time of development, the developer shall provide an estimate of the cost of the required improvements. The City will review the estimate and establish the dollar amount of the financial guarantee.

4. Prepare Post Construction Storm Water Management Plan

A Post Construction Storm Water Management Plan must be prepared and submitted with the development plans for approval. See section G of this chapter, POST CONSTRUCTION STORM WATER MANAGEMENT PLAN CONTENTS for the required contents of the plan.

5. Obtain UPDES Permit (all sites having land disturbance area equal to or greater than 1 acre)

Developments having a disturbed area of 1 acre or more require a UPDES Storm Water General Permit for Construction activities from the Division of Water Quality of the Department of Environmental Quality of the State of Utah.

Obtaining the permit requires preparation of a Storm Water Pollution Prevention Plan (we would expect that the Construction Site Storm Water Management Plan previously described would suffice) and a Notice of Intent. The permit form is available on the Internet in PDF format at http://www.deq.state.ut.us/eqwq/updes/swconst.pdf. The developer must submit a copy of the **approved** Notice of Intent to the City before the site plan will be considered finalized.

Note that when a development of over 1 acre in size is phased, the permit is required for each phase, even if each phase is less than 1 acre in size.

C. REQUIREMENTS FOR CONSTRUCTION ACTIVITIES

1. Provide instruction to construction site operators regarding the Construction Site Storm Water Management Plan

Prior to beginning work, developers and contractors must provide appropriate instruction to on-site construction supervisors and operators, regarding the requirements of the Construction Site Storm Water Management Plan. A copy of the approved plan must be present at the construction site.

2. Following Construction Site Storm Water Management Plan

The improvements shown in the approved Construction Site Storm Water Management Plan must be constructed as indicated in the plan. The appropriate activities outlined in the Construction Site Storm Water Management Plan must be performed prior to any other construction activities on the site. American Fork City encourages modifications to the plan when needed to improve storm water management in light of site conditions. However, variations from the plan that reduce or eliminate elements of the plan must only be done with the approval of the American Fork City Public Works Representative or City Engineer.

3. Monitor effectiveness of the elements included in the Construction Site Storm Water Management Plan, and make improvements as necessary to achieve the plan objectives.

After initial implementation of the improvements outlined in the approved Construction Site Storm Water Management Plan, rainfall activity will provide opportunity to observe the effectiveness of the storm water management improvements. Those responsible for construction activities must monitor the in-place storm water management improvements to assess their effectiveness; they must then devise a plan and make adjustments to the improvements as needed to accomplish effective storm water management

4. Provide verification that improvements were constructed as approved

Following implementation of the improvements contained in the Construction Site Storm Water Management Plan, the preparer of the plan shall provide American Fork City with a statement as to the condition of the improvements contained in the plan. The statement shall be made on a copy of the Construction Site Storm Water Management Plan document, and shall be signed by an authorized representative.

If the improvements were constructed as approved, it shall include language verifying such. If the improvements were not constructed as approved, it shall state the differences, the reason for the differences, and provide an opinion as to the adequacy of the constructed improvements. This statement must be provided to American Fork City prior to final acceptance of the improvements (in the case of public improvements) or issuance of an occupancy permit (in the case of private site improvements)

D. REQUIREMENTS FOR EXISTING DEVELOPMENTS

1. Following approved Post Construction Storm Water Management Plan

The owners of existing developments are responsible to maintain improvements and observe practices that were part of an approved Post Construction Storm Water Management Plan. Failure to adhere to the plan may result in failure of the City to issue or renew business licenses and permits, and/or impose fines or other action as prescribed by American Fork City Code.

2. Operator or owner makes adjustments to practices or improvements when necessary to achieve Post Construction Storm Water Management Plan objectives

American Fork City encourages adjustments to the plan that enhance effective storm water management. However, significant reduction of practices contained in the plan is to be accomplished through formal modification of the plan and resubmission to the Development Review Committee for approval.

E. STORM WATER PERFORMANCE CRITERIA AND DESIGN GUIDELINES

The following storm drainage criteria and design guidelines apply to all storm drainage plans in American Fork and shall be used in storm drainage calculations. The City Engineer has authority to modify the criteria and guidelines as needed to meet changing or unusual needs or conditions.

1. Storm water quantity criteria & design guidelines

A. Design Storm

i. Frequency

a. Design piping system for a 10 year storm

b. Design the detention facilities and control the point of discharge and the flooding hazard of a 100 year storm

ii. Intensity—per the following table:

Rainfall Intensities (inches/hour)*

Duration	10 Year	25 Year	100 Year
5 min	3.12	3.84	7.24
10 min	2.40	2.94	5.60
15 min	2.04	2.48	4.61
30 min	1.40	1.72	3.04
60 min	0.89	1.09	1.83
2 hours	0.52	0.62	1.03
3 hours	0.40	0.45	0.74
6 hours	0.23	0.26	0.42
24 hours	0.08	0.10	0.15

**Information for this table was taken from the Storm Drain Element of the General Plan for American Fork City prepared by RB&G Engineering, Inc., 2003.*

B. Runoff Coefficients

American Fork City encourages the design engineer to calculate a composite runoff coefficient based on surface type and associated runoff coefficient, weighted by the area of each surface type.

C. Inlet Spacing

Two criteria must be met:

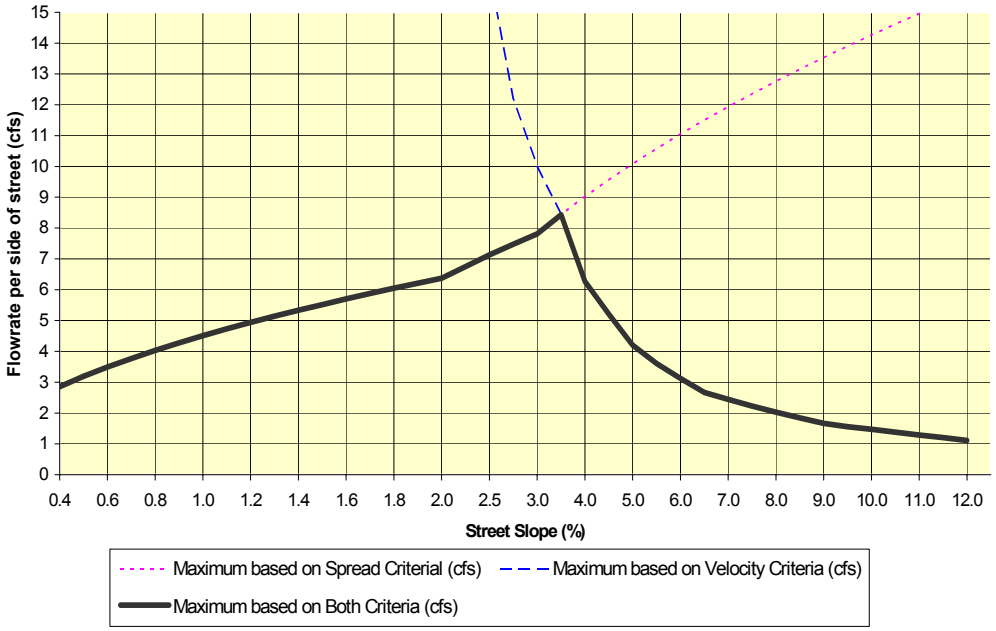
i. Spread of water in the street

Storm water must be delivered from the street into an underground piped system when the spread of water in the street covers the outside 10 feet of asphalt. (Assume a normal street cross section)

ii. Gutter velocity

Water must be delivered from the street into an underground piped system when the velocity of water in the deepest part of the gutter reaches 10 feet per second (as a safety consideration).

Both of these requirements are a function of street slope and storm water flow rate. Storm water must be delivered from the street to storm drains when flows reach amounts shown in the following graph. This means that for a given longitudinal street slope, flows on the street surface must be delivered into the underground piped system when they reach the amount indicated on the graph by the solid line.



Note: The spread of water in the street is calculated using the Manning equation in the form developed by Izzard, with a roughness coefficient of 0.013 and the standard street cross section. The velocity criteria is based on the velocity at the deepest part of the gutter with the Manning Equation, with a roughness coefficient of 0.013, and using a depth at a point six inches from the face of the curb as the hydraulic radius.

D. Inlet Capacity

The designer is to assume 50% blockage of inlets when considering storm drain inlet capacity.

E. Detention

Detention is the difference between the 100 year storm with duration based on the time of concentration and a release rate of 0.2 cfs/acre. Storm water must be detained such that the peak flow rate released from the site does not exceed 0.2 cubic feet per second per acre of development (cfs/acre). The following limitations apply to detention basins:

i. No part of the bottom of a landscaped detention basin may have a slope flatter that 3%.
ii. Within 10 feet of the outlet, the slope of the basin bottom must not be flatter than 5% unless a concrete apron is constructed around the outlet.
iii. Excluding areas within 10 feet of the outlet, the maximum allowable depth of water in the basin is 3 feet.
iv. Basins are to be designed such that water does not run into them after storm water reaches a maximum depth (unless a free flowing overflow is provided)—this can usually be controlled by the elevation of an inlet box in the street adjacent to the basin.
v. Basins are to be designed such that when runoff exceeds design values or when restrictions plug, excess storm water will be directed to the street system or bypass the restriction by entering the piped system via a free flowing overflow.

2. Storm water quality criteria

A. Erosion control

American Fork City encourages the use of the following Best Management practices on Construction Site and Post Construction Site Storm Water Management Plans. **BMPs with an asterisk are required to be a part of all Construction Site Storm Water Management Plans.**

Best Management Practice	BMP Code
Benching	BE
* Contaminated or Erodible Surface Areas	CESA
Chemical Mulch	CM
Compaction	CP
Erosion Control Blanket	ECB
Filter Strips	FS
Geotextiles and Mats	GM
Grassed Swales	GS
Hydromulching	HM
Slope Drain	SD
Temporary Drains and Swales	TDS
Temporary and Permanent Seeding	TPS

B. Sediment control

American Fork City encourages the use of the following Best Management Practices on Construction Site and Post Construction Site Storm Water Management Plans. **BMPs with an asterisk are required to be a part of all Construction Site Storm Water Management Plans.**

Best Management Practice	**BMP Code**
* Catch Basin Cleaning	CBC
Construction Road Stabilization	CR
Earth Berm Barrier	EB
Inlet Protection – Excavated	IPE
Inlet Protection – Gravel	IPG
Inlet Protection – Silt Fence or Straw Bale	IPS
Outlet Protection	OP
Rock Check Dams	RCD
Riprap	RR
Sediment Basin	SB
Street Cleaning	SC
* Stabilized Construction Entrance	SCE
* Storm Drain Flushing	SDF
Silt Fence	SF
Temporary Stream Crossing	TSC

The following practices are prohibited:

- Piling soil or construction materials in streets
- Constructing soil bridges over curb and gutter

C. Best management practices (BMPs) relative to quantity and quality of discharge to the storm drainage system

American Fork City encourages the use of the following Best Management Practices on Construction Site and Post Construction Site Storm Water Management Plans. **BMPs with an asterisk are required to be a part of all Construction Site Storm Water Management Plans.**

Best Management Practice	**BMP Code**
Conservation Easement	CE
Constructed Wetlands	CW
* Concrete Waste Management	CWM
* Detention/Infiltration Device Maintenance	DIDM
Extended Detention Basins	EDB
Hazardous Waste Management	HWM
In-Line Storage	ILS
Infiltration	IN
Land Use Planning/Management	LUPM
Minimizing Directly Connected Impervious Area	MDCIA
Open Space Design	OSD
Pest Control	PC
* Portable Toilets	PT
* Spill Clean-Up	SCU
Used Oil Recycling	UOR
Vehicle and Equipment Cleaning	VEC
Waste Disposal	WD
* Waste Handling and Disposal	WHD
Wet Ponds	WP
Zoning	ZO

F. CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN CONTENTS

1. Purpose of the Construction Site Storm Water Management Plan

The purpose of the Construction Storm Water Management Plan is to control storm water runoff and reduce pollutants in storm water runoff during construction by accomplishing the following:

A. Controlling soil erosion
B. Controlling discharge of sediment into storm drainage facilities or off-site
C. Prevent illicit discharges into on-site soils, storm drainage facilities or off-site
D. Prevent uncontrolled discharge of storm water to adjacent property
E. Controlling construction waste
F. Controlling dust

2. Contents of the Construction Site Storm Water Management Plan

The Construction Storm Water Management Plan is to be submitted with the site plans or improvement plans and is to contain at least the following elements:

A. Existing and proposed contours as shown on the grading plan, volume of displaced soil, and volume of imported soil.
B. Best Management Practices to accomplish the purpose of the plan--show the following for each BMP specified:
    i. Location and extent of specified BMP
    ii. Timing of implementation, both in terms of planting season and number of days following commencement of grading
    iii. Duration of implementation
    iv. Any information in addition to or different from that shown on the BMP fact sheet as necessary to employ the BMP on the site
C. BMP Fact sheets or other descriptive material for all specified BMPs
D. Proposed re-vegetation—show the following:
    i. Location and type of re-vegetation proposed
    ii. Timing of re-vegetation, both in terms of planting season and number of days following commencement of grading
    iii. Watering schedule to successfully establish proposed re-vegetation
E. Sequencing of construction activities and BMPs
F. Name, address & telephone number of individual who has responsibility for implementation and maintenance of the plan.

G. POST CONSTRUCTION STORM WATER MANAGEMENT PLAN CONTENTS

1. Purpose of the Post Construction Storm Water Management Plan

The purpose of the Post Construction Storm Water Management Plan is to control storm water runoff and reduce pollutants in storm water runoff after construction is complete and the developed site is in operation. This is achieved by accomplishing the following:

A. Controlling soil erosion
B. Controlling discharge of sediment into storm drainage facilities or off-site
C. Preventing illicit discharges into on-site soils, storm drainage facilities or off-site
D. Prevention of debris and garbage from entering the storm water system.

2. Contents of the Post Construction Storm Water Management Plan

The Post Construction Storm Water Management Plan is to be submitted with the site plans or improvement plans. It shall be contained on a plan sheet of its own, rather than being a part of another plan sheet, and is to contain at least the following:

A. The site plan, including vicinity map, proposed contours, permanent storm water features, and landscaping.
B. Best management practices to accomplish the purpose of the plan. Examples of appropriate BMPs may include those addressing operation and maintenance of storm drainage quality control facilities, operation and maintenance of storm water discharge control facilities, maintenance of landscaping, good housekeeping practices, etc.
C. Show the following for each BMP specified:
    i. Location and extent of specified BMPs, as appropriate
    ii. Detailed schedule of execution for each specified BMP, in terms of starting time, duration, frequency, etc., as appropriate
    iii. Any information in addition to or different from that shown on the BMP fact sheets as necessary to employ the BMPs on the site
D. BMP fact sheets or other descriptive material for all specified BMPs
E. The following statement shall prominently appear on all Post Construction Storm Water Management Plans:

    The holders of the business license at this site (or owner of the lot if there is no business license) are responsible to perpetually follow this Post Construction Storm Water Management Plan. Failure to follow the plan may result in the City refusing to renew business licenses or take other action against the property owner.

The objectives of the Plan are to:

1. **Control soil erosion**
2. **Control discharge of sediment into storm drainage facilities or off-site**
3. **Prevent illicit discharges into on-site soils, storm drainage facilities or offsite**

If the objectives of the Plan are not being met, the site operator or owner shall make adjustments to the Plan as needed to accomplish its purposes.

American Fork City encourages adjustments to the plan that enhance effective storm water management. However, significant reduction of practices contained in the plan is to be accomplished through formal modification of the plan and resubmission to the Development Review Committee for approval.

H. PROPOSED CONSTRUCTION AND POST CONSTRUCTION STORM WATER MANAGEMENT PLAN REVIEW PROCEDURES

The Construction Storm Water Management Plan and Post Construction Storm Water Management Plan will be submitted to American Fork City with the development plans. They will be reviewed along with the development plans, with storm water quantity and quality benefits in mind. The review procedure will be the same as for subdivision improvement plans and site plans.

I. CONCLUSION

Inasmuch as the construction and post construction related Best Management Practices will generally be carried out by those in the private construction industry, they will be implemented as specified in specific construction site and post construction storm water management plans as development occurs. The BMPs found in the Inspection and Enforcement Procedures of PART 4, OPERATION AND MAINTENANCE PRACTICES, cover American Fork City's efforts to assure that the plans are followed.

American Fork City's Storm Water Technical Manual satisfies, in part, two of the six minimum control measures established by the Storm Water Phase II Rule. PART 7, SUMMARY OF BEST MANAGEMENT PRACTICES AND MEASURABLE GOALS, shows how the best management practices correlate with the six minimum control measures.

PART 6 CONSTRUCTION AND POST CONSTRUCTION BEST MANAGEMENT PRACTICES

A. BMP INDEX

American Fork City encourages the use of the following best management practices on Construction Site and Post Construction Site Storm Water Management Plans. **BMPs with an asterisk are required to be a part of all Construction Site Storm Water Management Plans.**

Best Management Practice	BMP Code
Benching	BE
* Catch Basin Cleaning	CBC
Conservation Easement	CE
* Contaminated or Erodible Surface Areas	CESA
Chemical Mulch	CM
Compaction	CP
Construction Road Stabilization	CR
Constructed Wetlands	CW
* Concrete Waste Management	CWM
* Detention/Infiltration Device Maintenance	DIDM
Earth Berm Barrier	EB
Erosion Control Blanket	ECB
Extended Detention Basins	EDB
Filter Strips	FS
Geotextiles and Mats	GM
Grassed Swales	GS
Hydromulching	HM
Hazardous Waste Management	HWM
In-Line Storage	ILS
Infiltration	IN
Inlet Protection – Excavated	IPE
Inlet Protection – Gravel	IPG
Inlet Protection – Silt Fence or Straw Bale	IPS
Land Use Planning/Management	LUPM
Minimize Directly Connected Impervious Areas	MDCIA
Outlet Protection	OP
Open Space Design	OSD
Pest Control	PC
* Portable Toilets	PT
Rock Check Dams	RCD

Riprap	RR
Sediment Basin	SB
* Street Cleaning	SC
* Stabilized Construction Entrance	SCE
* Spill Clean-Up	SCU
Slope Drain	SD
* Storm Drain Flushing	SDF
Silt Fence	SF
Temporary Drains and Swales	TDS
Temporary and Permanent Seeding	TPS
Temporary Stream Crossing	TSC
Used Oil Recycling	UOR
Vehicle and Equipment Cleaning	VEC
* Waste Disposal	WD
Waste Handling and Disposal	WHD
Wet Ponds	WP
Zoning	ZO

B. BMP FACT SHEETS

The following sheets contain BMP Fact Sheets for use in American Fork.

PART 7 SUMMARY OF BEST MANAGEMENT PRACTICES AND MEASURABLE GOALS

A. SIX MINIMUM CONTROL MEASURES OF THE STORM WATER PHASE II RULE

The following pages contain the regulatory text of the EPA Phase II Rule for each of the six minimum control measures and guidance from the EPA on satisfying the requirements of each. This information was taken directly from the EPA web site (http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm).

1. Minimum Control Measure #1 Public Education & Outreach on Storm Water Impacts

Regulatory Text

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

EPA Guidance

You may use storm water educational materials provided by your state; tribe; EPA; environmental, public interest, or trade organizations; or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil and household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities, as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling and watershed and beach cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and

institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains, and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

2. Minimum Control Measure #2 Public Involvement/Participation

Regulatory Text

You must, at a minimum, comply with state, tribal, and local public notice requirements when implementing a public involvement/participation program.

EPA Guidance

EPA recommends that the public be included in developing, implementing, and reviewing your storm water management program, and that the public participation process should make efforts to reach out and engage all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local storm water management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other pre-existing programs, or participating in volunteer monitoring efforts. (Citizens should obtain approval where necessary for lawful access to monitoring sites.)

3. Minimum Control Measure #3 Illicit Discharge Detection & Elimination

Regulatory Text

You must develop, implement and enforce a program to detect and eliminate illicit discharges (as defined at Sec. 122.26(b)(2)) into your small MS4.

You must:

- 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 that receive discharges from those outfalls;
- To the extent allowable under State, Tribal or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into your storm sewer system and implement appropriate enforcement procedures and actions;

- Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to your system; and
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

You need address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if you identify them as significant contributors of pollutants to your 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 significant sources of pollutants to waters of the United States).

EPA Guidance

EPA recommends that the plan to detect and address illicit discharges include the following four components: procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. EPA recommends visually screening outfalls during dry weather and conducting field tests of selected pollutants as part of the procedures for locating priority areas. Illicit discharge education actions may include storm drain stenciling; a program to promote, publicize, and facilitate public reporting of illicit connections or discharges; and distribution of outreach materials.

4. Minimum Control Measure #4 Construction Site Storm Water Runoff Control

Regulatory Text

You must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to your small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction activity disturbing less than one acre must be included in your 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 NPDES permitting authority waives requirements for storm water discharges associated with small construction activity in accordance with Sec. 122.26(b)(15)(i), you are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites.

Your program must include the development and implementation of, at a minimum:

A. 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, Tribal, or local law;
B. Requirements for construction site operators to implement appropriate erosion and sediment control (ESC) best management practices;
C. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
D. Procedures for site plan review which incorporate consideration of potential water quality impacts;
E. Procedures for receipt and consideration of information submitted by the public, and
F. Procedures for site inspection and enforcement of control measures.

EPA Guidance

Examples of sanctions to ensure compliance include non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance. EPA recommends that procedures for site plan review include the review of individual pre-construction site plans to ensure consistency with local (ESC) requirements. Procedures for site inspections and enforcement of control measures could include steps to identify priority sites for inspection and enforcement based on the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.

You are encouraged to provide appropriate educational and training measures for construction site operators. You may wish to require a storm water pollution prevention plan for construction sites within your jurisdiction that discharge into your system. See Sec. 122.44(s) (NPDES permitting authorities' option to incorporate qualifying State, Tribal and local erosion and sediment control programs into NPDES permits for storm water discharges from construction sites). Also see Sec. 122.35(b) (The NPDES permitting authority may recognize that another government entity, including the permitting authority, may be responsible for implementing one or more of the minimum measures on your behalf).

5. Minimum Control Measure #5 Post-Construction Storm Water Management in New Development & Redevelopment

Regulatory Text

You must develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into your small MS4. Your program must

ensure that controls are in place that would prevent or minimize water quality impacts.

You must:

- Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for your community;
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, Tribal or local law;
- Ensure adequate long-term operation and maintenance of BMPs.

EPA Guidance

If water quality impacts are considered from the beginning stages of a project, new development and potentially redevelopment provide more opportunities for water quality protection. EPA recommends that the BMPs chosen: be appropriate for the local community; minimize water quality impacts; and attempt to maintain pre-development runoff conditions. In choosing appropriate BMPs, EPA encourages you to participate in locally-based watershed planning efforts which attempt to involve a diverse group of stakeholders including interested citizens.

When developing a program that is consistent with this measure's intent, EPA recommends that you adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality. In addition to assessing these existing documents and programs, you should provide opportunities to the public to participate in the development of the program. Non-structural BMPs are preventative actions that involve management and source controls such as: policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation; policies or ordinances that encourage infill development in higher density urban areas, and areas with existing infrastructure; education programs for developers and the public about project designs that minimize water quality impacts; and measures such as minimization of percent impervious area after development and minimization of directly connected impervious areas. Structural BMPs include: storage practices such as wet ponds and extended-detention outlet structures; filtration practices such as grassed swales, sand filters and filter strips; and infiltration practices such as infiltration basins and infiltration trenches.

EPA recommends that you ensure the appropriate implementation of the structural BMPs by considering some or all of the following: pre-construction review of BMP designs; inspections during construction to verify BMPs are built as designed; post-construction inspection and maintenance of BMPs; and penalty provisions for the noncompliance with design, construction or operation and maintenance. Storm water technologies are constantly being improved, and EPA recommends that your requirements be responsive to these changes, developments or improvements in control technologies.

6. Minimum Control Measure #6 Pollution Prevention/Good Housekeeping for Municipal Operations

Regulatory Text

You must 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. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

EPA Guidance

EPA recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and nonstructural storm water controls to reduce floatables and other pollutants discharged from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems

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B. BEST MANAGEMENT PRACTICES SUMMARY

The following summarize the best management practices contained in the American Fork City Storm Water Management Program and illustrate how the Plan satisfies the requirements of the six minimum control measures of the Storm Water Phase II Rule

Best Management Practices	Min Control Measure					
	1	2	3	4	5	6
PART 2. PUBLIC EDUCATION AND OUTREACH PRACTICES						
1. Community-Based Outreach Activities to Educate the Public						
A. Distribute informational and educational materials in utility bill mailings	X					
B. Promote water conservation practices	X					
C. Support Utah County Storm Water Coalition	X					
D. BMPs performed by Utah County. See the Utah County Storm Water Management Program	X					
2. Community-Based Outreach Activities to Involve the Public						
A. Sponsor community clean-up activities		X				
B. Sponsor marking storm drain inlets with decals		X				
C. Coordinate the presentation of educational materials and displays in schools and at events	X	X				
D. Provide opportunities for public review of SWMP during its creation		X				
E. Form and use an Advisory Committee to help develop the SWMP		X				
F. BMPs performed by Utah County. See the Utah County Storm Water Management Program	X	X				

Best Management Practices	Min Control Measure					
	1	2	3	4	5	6
PART 3. STORM WATER SYSTEMS MANAGEMENT PRACTICE						
1. Regulatory Practices						
A. Develop and follow a program to identify and eliminate illicit discharges			X			
B. Encourage residents to switch from septic systems to city sewer by assessing sewer fee to users of septic systems who have access to the sewer			X			
C. Promote proper discharge of the sanitary sewer waste at the boat harbor and at mass gatherings by providing facilities to appropriately discharge sanitary waste			X			
D. Regulate sanitary sewer discharge by City Ordinance			X			X
E. Assess a storm drain utility, backed by City Ordinance, which encourages regulation of storm water discharges		X			X	X
F. Distribute free landfill passes to residents		X			X	X
G. Develop alternate road cross section without curb and gutter for undeveloped parts of town					X	
H. Promote open space by City Ordinance encouraging clustering and allowing TDR's					X	
I. Zones requiring larger lots					X	
2. Planning Practices						
A. Map the Storm Drainage System			X			X

Best Management Practices	Min Control Measure					
	1	2	3	4	5	6
PART 4. STORM WATER OPERATIONS PRACTICES						
1. Operation & Maintenance Procedures						
A. Master plan the storm drainage system						X
B. Clean storm water facilities						X
C. Regulate storm water discharge and require pretreatment					X	X
D. Incorporate City-managed wetlands in the storm water system					X	X
E. Sweep Streets						X
F. Provide non-sanitary waste disposal facilities on City properties						X
G. Include measures to improve water quality in new detention areas					X	X
2. Inspection & Enforcement Procedures						
A. Develop a set of standard BMPs that can be incorporated into construction projects				X		
B. Review development plans				X		
C. Discuss BMPs in preconstruction review meetings				X		
D. Inspect sites during construction to enforce sediment control and proper disposal of construction waste				X		
E. Require bonding that will be held until final cleanup of construction sites				X		
3. Public Employee Training Program						
A. Train city employees on storm water issues						X
4. Spill Prevention Plan						
A. Properly dispose of oils, solvents, antifreeze, etc. from municipal works						X

C. BMP IMPLEMENTATION SCHEDULE

The following is a tabulation of the implementation schedules of all of the Best Management Practices. It illustrates the order of implementation of all of the BMPs, and shows when each must be implemented.

American Fork Storm Water Management Program

BMP Implementation Schedule

Best Management Practices	In Place	2003	2004	2005	2006	2007	2008
Part 2. Public Education and Outreach Practices							
1. Community-Based Outreach Activities to Educate the Public							
A. Information materials/activities to educate the public							
B. Promote water conservation practices							
C. Support Utah County Storm Water Coalition							
D. BMPs performed by Utah County. See the Utah County Storm Water Management Program							
2. Community-Based Outreach Activities to Involve the Public							
A. Sponsor community clean-up activities							
B. Sponsor marking storm drain inlets with decals							
C. Coordinate the presentation of educational materials and displays in schools and at events							
D. Provide opportunities for public review of SWMP during its creation							
E. Form and use Advisory Committee to help develop the SWMP							
F. BMPs performed by Utah County. See the Utah County Storm Water Management Program.							
Part 3. Storm Water System Management Practices							
1. Regulatory Practices							
A. Develop and follow a program to identify and eliminate illicit discharges							
B. Encourage residents to switch from septic systems to city sewer by assessing sewer fee to users of septic systems who have access to the sewer							
C. Promote proper discharge of the sanitary sewer waste at the boat harbor and at mass gatherings by providing facilities to appropriately discharge sanitary waste							
D. Regulate sanitary sewer discharge by City Ordinance							
E. Assess a storm drain utility, backed by City Ordinance, which encourages regulation of storm water discharges							
F. Distribute free landfill passes to residents							
G. Develop alternate road cross section without curb and gutter for undeveloped parts of town							
H. Promote open space by City Ordinance encouraging clustering and allowing TDR's.							
I. Zones requiring larger lots.							
2. Planning Practices							
A. Map the Storm Drain System							
Part 4. Storm Water Operation Practices							
1. Operation & Maintenance Procedures							
A. Master plan the storm drainage system							
B. Clean storm water facilities							
C. Regulate storm water discharge and require pretreatment							
D. Incorporate City-managed wetlands in the storm water system							
E. Sweep streets							
F. Provide non-sanitary waste disposal facilities on City properties							
G. Include measures to improve water quality in new detention areas							
2. Inspection & Enforcement Procedures							
A. Develop a set of standard BMPs that can be incorporated into construction projects							
B. Review development plans							
C. Discuss BMPs in preconstruction review meetings							
D. Inspect sites during construction to enforce sediment control and proper disposal of construction waste							
E. Require bonding that will be held until final cleanup of construction sites.							
3. Public Employee Training Program							
A. Train city employees on storm water issues							
4. Spill Prevention Plan							
A. Properly dispose of oils, solvents, antifreeze, etc. from municipal works							

PART 8 ANNUAL PROGRESS REPORTS

PART 8, ANNUAL PROGRESS REPORTS is available to keep each year's annual progress reports to the State in the same place. This will facilitate long term evaluation of progress.

APPENDIX A

UTAH COUNTY STORM WATER COALTION CONTRIBUTIONS

UTAH COUNTY
County Engineer-Surveyor

Clyde R. Naylor, Engineer-Surveyor

2855 South State Street
Provo, Utah 84606
Phone 801-373-6600

Utah County Storm Water Coalition Member Agency:

Utah County, as part of it's responsibilities to the Utah County Storm Water Coalition, and in accordance with the EPA Storm Water Phase II Final Rule regulations for operators of Municipal Separate Storm Sewer Systems (MS4s), agrees to fulfill the following items required under the Public Education and Outreach Best Management Practice in order to obtain National Pollutant Discharge Elimination System (NPDES) Phase II permit coverage:

- Schedule and conduct Utah County Storm Water Coalition meetings which are necessary to correlate activities, set proposed budgets, and provide training opportunities.

- Produce a quarterly countywide, storm water newsletter and provide copies to member agencies for distribution to the public.

- Provide a scripted outline and training information for volunteers, students, and public employees who will present the Utah County Storm Water Educational Program. Scheduling of training exercises will be the responsibility of each member agency.

- Produce and distribute a Utah County storm water educational video. Copies of this video will be made available to each member agency.

- Become a central warehouse for other storm water educational materials. These materials could include informational pamphlets, activity books, pencils, note pads, magnets, etc.

- Provide materials for display and demonstration in information booths for city and county activities and events.

- Provide information for and promote to the public an information system for the disposal of household materials and chemicals. Citizens will be able to call a local, countywide phone number where gathered information for disposal sites will be collected.

Signed: Clyde R. Naylor Date: 2-4-03

Clyde R. Naylor, P.E.
Utah County Public Works Director

PUBLIC EDUCATION AND OUTREACH PROGRAM

The Public Education and Outreach Program of the Stormwater Management Plan will address increasing public and professional awareness of water quality concerns and Best Management Practices (BMPs) that may be implemented with respect to protection of stormwater. The BMPs described in this section of the Stormwater Management Plan (SWMP) include training of professionals and municipal employees and education of the public sector. These education and training programs will introduce the UPDES program and focus on identifying contaminant sources and how to control these sources.

This program also integrates many other facets of the SWMP to provide information and up-to-date BMPs to the end user. The following BMPs describe implementation tasks and assessment tasks to be completed by the Utah County Stormwater Coalition for the Public Education and Outreach Program.

EDUCATIONAL PROGRAM

Description: Provide students with educational materials, demonstrations and outreach activities regarding the impact of daily activities on stormwater quality.

Utah County Stormwater Program: The Utah County Stormwater Program is a stormwater quality lesson taught by city personnel and volunteers. The lesson is interesting, easy to present, and lasts approximately 25 minutes. The presentation begins with a container of clean water (tap water) that represents the rainwater that produces stormwater runoff. Step by step different "contaminants" are added to the container, such as vegetable oil (oil), food coloring (grease), dirt (sediment), twigs (floatables), and paper (litter). The presentation demonstrates the importance of preventing litter and keeping the storm drain system clean. The purpose of the presentation is to visually display the types of pollutants in stormwater, the sources of each pollutant, and the their impacts.

High School Mentor Program: City personnel work with high school students to teach them the Utah County Stormwater Program and some basic information about how to prevent stormwater pollution. The high school students, in turn, present the information to 5th grade elementary classes throughout the county. All materials are to be supplied to the high school students by the Utah County Stormwater Coalition through the participating cities. The number of high school students involved with the program and the number of 5th graders who attend the presentation will be documented.

Educational Materials: Educational materials designed to inform communities of the impacts of stormwater discharges on local water bodies are to be distributed by the Utah County Stormwater Coalition through the participating cities. These materials include activity books, pencils, note pads, magnets, etc. The materials are presented to 5th graders in both public and private schools within Utah County. The materials are to be distributed once a year when students can practice what they learn and more easily visualize stormwater runoff (i.e., spring and fall). The type and quantity of materials that are distributed are to be documented by the Utah County Stormwater Coalition.

Storm Drain Marking Program: A program utilizing community groups to paint stencils or glue markers on storm drain inlets to prevent illicit dumping and littering. Common groups that participate in the Storm Drain Marking Program are Eagle Scouts, Girl Scouts, and church and school groups. The Utah County Stormwater Coalition through and the cities will supply the groups who wish to participate the materials necessary and will identify the locations where the stencils or markers are needed. The Utah County Stormwater Coalition will document the number of participants and storm drains that are marked.

Objective: Reduce pollutants to receiving waters by increased public awareness of problems and solutions.

Resource Allocation: Funding for this BMP represents approximately 30% of the management and oversight for the Utah County Stormwater Management Program.

Implementation and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Implementation	Assessment
04/04	Establish inter-local agreements with Member agencies	Document number of member agencies In agreement
09/04	High School Mentor Program	Document the number of student attendees/participants
09/04	Utah County Stormwater Program Presentations	Document the number of student attendees
09/04	Develop and distribute educational materials to hand out to schools	Document materials distributed
07/03	Storm Drain Marking Program	Document the number of participants And storm drain inlets marked

COMMUNITY/RESIDENTIAL PROGRAM

Description: Inform the public on the impacts of stormwater discharges on water bodies and steps that can be taken to reduce pollutants in stormwater runoff through outreach activities and/or educational materials. Inform the general public about the hazards associated with illegal discharges and improper disposal of waste. Promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes. Develop educational material on the proper use of pesticides, herbicides, and fertilizers.

Public Reporting: Promote public reporting of illegal dumping and illicit discharges. The purpose of public reporting is to enable the Utah County Health Department to respond to citizen complaints regarding water quality. Reports may be called into a local, countywide phone number. Procedures for formal complaints are in place. As necessary, the Utah County Stormwater Coalition will work in conjunction with the Utah County Health Department to investigate the source of the pollution. Investigation and enforcement measures, including any fee penalties, are to be documented by the Utah County Stormwater Coalition.

Information Booths: Information booths are to be held at various community and educational events such as the county fair, city celebrations, college events, high school events, shopping mall activities, etc. The booth display includes a graphic panel illustrating the hydrologic cycle in an urban setting and is accompanied by a series of pamphlets or other educational materials that explain how the public can help reduce pollutants exposed to rainfall. The materials that are handed out at the booths primarily consist of the current information developed by the Utah County Stormwater Coalition.

Mass Educational Materials: Mass educational materials are designed to educate the public about stormwater quality issues and are through the Utah County Stormwater Coalition. This includes quarterly newsletters, web sites, radio commercials, videos, stickers, pads of paper, pencils, magnets, etc. The types of educational materials that will be the most successful are discussed in Utah County Stormwater Coalition meetings. The Utah County Stormwater Coalition will document the quantity of each type of educational material (i.e., number of radio commercials, number of pencils, and magnets distributed at the information booths)

Household Hazardous Waste Program: The Utah County Stormwater Coalition assists in distributing information to the public regarding proper disposal of used oil and household hazardous wastes. The program is to be administered by the Utah County Health Department and the South County and North Pointe Solid Waste Management Facilities. However, the Utah County Stormwater Coalition helps to educate the general public regarding the requirements for disposing of household hazardous wastes in the other educational materials such as key chains, activity book, and magnets.

Leaf Bag Collection Program: Distribution of leaf bags to residents for the purpose of composting leaves during the fall. The Leaf Bag Collection Program is to be implemented by the cities in conjunction with the Utah County Stormwater Coalition and the South County and North Pointe Solid Waste Management Facilities. The public can place full leaf bags on their parking strip or take them to a central, advertised location during spring clean-up where they are to be transported by city volunteer groups to the solid waste management facilities and/or green waste facilities to be composted. The Utah County Stormwater Coalition will coordinate with these agencies to document the number of leaf bags that are distributed.

Public Survey: The Utah County Stormwater Coalition will administer public surveys. The initial survey will determine what type of information should be conveyed to the public. The follow-up survey will question the public about their actions, rather than just their knowledge. The purpose of the survey will be to give the Utah County Stormwater Coalition an idea as to how effectively the education program is working. Examples of questions are: what do you do with your grass clippings; where do you dispose of your household hazardous wastes, etc. The survey will be developed and implemented with the assistance of a survey consultant.

Objective: Reduce pollutants to receiving waters by increased public awareness of problems and solutions. Discourage discharge of pollutants to the stormwater system and receiving waters through enforcement actions taken against violators. Reduce the impact to water quality through timely clean-up actions. Educate residents and landowners on the potential impacts to receiving waters due to the over-application and/or misapplication of pesticides, herbicides, and fertilizers.

Resource Allocation: Funding for this BMP represents approximately 30% of the management and oversight for the Utah County Stormwater Management Program.

Implementation and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Implementation Task	Assessment Task
07/03	Public Reporting – follow up on reports and take enforcement action Establish countywide phone number	Document number of reports received through the mail Document enforcement actions taken
05/04	Attend community events with information booths	Document representation at local events and assess the response (# visitors, etc.)
01/05	Develop mass educational materials via web site and radio commercials, stickers, etc.	Document advertisements and other means of informing the public
07/04	Promote, publicize, and facilitate the proper management and disposal of used oil and household hazardous wastes	Document information booths where information is distributed
09/04	Leaf Bag Collection Program	Document number of leaf bags distributed
05/04 And 07/07	Complete a public survey regarding actions that affect stormwater runoff	Document survey questions, responses, and any proposed changes to the SWMP

COMMERCIAL PROGRAMS

Description: Develop a program to inform businesses, industries, and public employees about water quality concerns in urban stormwater runoff. Develop educational material on the proper use of pesticides, herbicides, and fertilizers.

Pesticide, Herbicide, and Fertilizer Educational Program: Presentations along with educational materials are to be presented to businesses and industries regarding the potential impact to receiving waters due to the over-application and misapplication of pesticides, herbicides, and fertilizers. General information regarding pesticide, herbicide, and fertilizer application can be distributed via a brochure at garden stores, information booths, commercial sprayers, or other central locations as well as advertising web sites like the Department of Agriculture.

Commercial Training: Guidelines and materials to inform specific businesses and industries located in our area of the causes and effects of polluted stormwater will be provided by the Utah County Stormwater Coalition and distributed by the participating cities.

Objective: Educate public employees and businesses about the hazards associated with illegal discharges and improper disposal of waste. Additionally, to provide information regarding the potential impacts to receiving waters due to the over-application and misapplication of pesticides, herbicides, and fertilizers.

Resource Allocation: Funding for this BMP represents approximately 15% of the management and oversight for the Utah County Stormwater Management Program.

Implementation and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Implementation	Assessment
03/06	Review the Pesticide, Herbicide and Fertilizer Educational Program	Assess the current program and determine what changes need to be implemented
03/07	Implement changes identified in prior task	Document changes made to PHF program
03/07	Educational materials with information About PHF disposal. Establish countywide hotline.	Document number of materials distributed Document number of calls to hotline.

UTAH COUNTY STORMWATER COALITION

Description: Continue coordinating and participating in the Utah County Stormwater Coalition for the purpose of providing further education and training for professionals and municipal employees with regards to stormwater quality.

Utah County Stormwater Coalition: A coalition of local agencies whose purpose is to reduce the load of pollutants entering storm drains and receiving waters, and enforcing the appropriate regulations. The Coalition meets to coordinate new educational materials and programs, further stormwater program development and inform all members of new regulations or stormwater workshops.

The Utah County Stormwater Coalition shall provide the following:

1. An educational booth will be available to be scheduled and manned by the participating cities for city festivities, the county fair, college events, shopping mall activities, etc.
2. A countywide, quarterly stormwater newsletter to be written and distributed by the participating cities. The newsletter is to be published by the Utah County Stormwater Coalition.
3. Supply a scripted outline for the Utah County Stormwater Program. The presentation shall include a video and other educational materials. Target audiences could include school groups, church groups, businesses, clubs, planning commission meetings, etc.

A budget for the educational program is to be established annually based upon the population of the participating members. The type of media and the distribution schedule are to be discussed by Utah County Stormwater Coalition members to more effectively target the public during the spring and fall months. Another factor that is to be taken into consideration in choosing the type of media is the average number of times that a person will see the advertisement. Examples of the types of educational materials that are to be developed through the Utah County Stormwater Coalition are:

Television commercials	Pencils
Educational booths	Videos
Radio commercials	Pads of papers
Newspaper advertisements	Magnets
Bus board advertisements	Activity books
Public surveys	Quarterly Newsletters

The Utah County Stormwater Coalition will document the number and type of materials that are distributed. Current Utah Stormwater Coalition members are:

Alpine City	American Fork City
Cedar Hills City	Draper City
Highland City	Lehi City
Lindon City	Mapleton City
Orem City	Payson City
Pleasant Grove City	Provo City
Salem City	Spanish Fork City
Springville City	Utah County

Objective: Increase public and professional awareness of stormwater quality concerns.

Resource Allocation: Funding for this BMP represents approximately 30% of the management and oversight for the Utah County Stormwater Management Program.

Implementation and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Implementation	Assessment
03/03	Continued participation in the Coalition	Document Coalition meetings, number of attendees and publications
04/04	Expand participants involved in Coalition issues	Document new members and attendees

EDUCATIONAL WORKSHOPS FOR PROFESSIONALS

Description: Hold educational workshops and distribute appropriate material to architects, engineers, planners, consultants, field personnel, law enforcement officials and local government officials on the water quality problems associated with urban runoff and the basic principles behind reducing runoff volumes and treating stormwater.

Objective: Ensure professionals have an understanding of the UPDES program and are knowledgeable about the need for BMPs to be included in the planning, design, and construction phases.

Resource Allocation: Funding for this BMP represents approximately 15% of the management and oversight for the Utah County Stormwater Management Program.

Implementation and Assessment: The table below represents measurable goals for this BMP to be implemented and assessed during the permit term. The purpose of measurable goals is to gauge permit compliance and program effectiveness following the schedule identified.

Year	Implementation	Assessment
04/04	Attend professional conferences or seminars	Document seminars attended Document workshops
07/03	Give presentations at conferences or workshops	Document presentations

APPENDIX B

BMP REPORTING FORMS

The following pages contain forms for recording and reporting progress towards the measurable goals associated with the Best Management Practices contained in the American Fork Storm Water Management Program.

BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

1. Community-Based Outreach Activities to Educate the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Distribute informational and educational materials in utility bill mailings.	Educational materials promote public awareness of storm water issues.	Include materials in at least 2 mailings per year.	December 2004 semi-annually thereafter.

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

1. Community-Based Outreach Activities to Educate the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Promote water conservation practices.	Reducing excess runoff from landscaped areas may reduce the carry of lawn chemicals to the storm drainage system.	1. Establish graduated water rates. 2. Include materials in utility bill mailing at least once per year.	1. May 2005 2. In place; continue annually.

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

1. Community-Based Outreach Activities to Educate the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Support Utah County Storm Water Coalition.	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City.	1. Establish inter-local agreement with Utah County. 2. Pay annual assessment	1. April 2004 2. July 2003; annually thereafter.

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

1. Community-Based Outreach Activities to Educate the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. BMPs performed by Utah County. See the Utah County Storm Water Management Program.	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City.	See Utah County Storm Water Management Program	See Utah County Storm Water Mangement Program

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

2. Community-Based Outreach Activities to Educate the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Sponsor community cleanup activities	In clean-up projects, volunteers collect and dispose of debris that might otherwise enter the storm water system.	Sponsor annually	October 2003; annually thereafter.

PERFORMANCE

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

2. Community-Based Outreach Activities to Involve the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Sponsor marking storm drain inlets with decals.	Marking the inlets will increase public awareness of storm water contamination potential	1. Mark 10% of all known inlets per year. 2. Require marking of all new inlets by land developers	1. October 2003; annually thereafter. 2. In place

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

2. Community-Based Outreach Activities to Involve the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Coordinate the presentation of educational materials and displays in schools and at events.	Involving school children and the public in storm water discussions promotes public awareness of storm water issues.	1. Provide annual training to high school students, who will present to 5th graders. 2. Provide an informational display at one event per year.	1. June 2005; annually thereafter 2. June 2005; annually thereafter

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 2 PUBLIC EDUCATION AND OUTREACH PRACTICES

2. Community-Based Outreach Activities to Involve the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Provide opportunities for public review of SWMP during its creation.	This provides an opportunity for public comment.	Conduct two public hearings during development of SWMP.	October 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

2. Community-Based Outreach Activities to Involve the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Form and use an Advisory Committee to help develop the SWMP.	This provides an opportunity for public involvement and input on the SWMP.	Hold 3 meetings of the committee.	October 2003-May 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 2, PUBLIC EDUCATION AND OUTREACH PRACTICES

2. Community-Based Outreach Activities to Involve the Public

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
F. BMP's performed by Utah County. See the Utah County Storm Water Management Program.	The Utah County Storm Water Management Program developed by the Utah County Storm Water Coalition contains BMPs in behalf of the City	See Utah County Storm Water Management Program	See Utah County Storm Water Management Program

PERFORMANCE

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Develop and follow a program to identify and eliminate illicit discharges.	A written program facilitates successfully identifying and eliminating illicit discharge	1. Adopt an ordinance controlling storm water discharge 2. Complete a written document containing the program.	1. January 2005 2. January 2005

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Encourage residents to switch from septic systems to city sewer by assessing sewer fee to users of septic systems who have access to the sewer.	Eliminating septic systems reduces the potential of storm water pollution due to septic system failure.	Fee structure is already in place.	In place.

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Promote proper discharge of the sanitary sewer waste at the boat harbor and at mass gatherings by providing facilities to appropriately discharge sanitary waste.	Proper disposal of sanitary waste keeps it out of the storm drainage system.	1. Restroom exists at the boat harbor. 2. Establish contract annually to provide chemical toilets at mass gathering locations	1. In place 2. October 2003 maintain annually.

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Regulate sanitary sewer discharge by City Ordinance	Proper disposal of sanitary waste keeps it out of the storm drainage system.	Adopt ordinance regulating sanitary sewer discharge.	In place

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Assess a storm drain utility, backed by City Ordinance, which encourages regulation of storm water discharges.	Promotes reduction in quantity and improvement in quality.	Adopt ordinance	In place

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
F. Distribute free landfill passes to residents.	Free landfill passes encourage proper disposal of waste.	Document number of citizens receiving passes annually.	October 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
G. Develop alternate road cross section without curb and gutter for undeveloped parts of town.	May reduce storm water runoff quantity and improve quality.	Adopt alternate road cross section.	June 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
H. Promote open space by City Ordinance encouraging clustering and allowing TDR's.	Reduce storm water runoff quantity and improve quality.	Adopt ordinance	January 2005

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

1. Regulatory Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
I. Zones requiring larger lots.	May reduce storm water runoff quantity and improve quality.	Adopt the General Plan Amendment.	January 2005

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 3, STORM WATER SYSTEM MANAGEMENT PRACTICES

2. Planning Practices

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Map the Storm Drainage System	Mapping a system is essential to effectively managing it.	1. Map inlets in one-third of the city per year. 2. Develop program to map storm drainage system.	1. October 2004; annually for 2 years thereafter. 2. October 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Master plan the storm drainage system.	Master planning facilities effective system development.	Adopt the storm drain element of the general plan.	June 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Clean storm water facilities	Cleaning facilities removes pollutants temporarily trapped in the system.	1. Develop the maintenance procedure 2. Document maintenance activities	1. November 2006 2. October 2007, annually thereafter

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Regulate storm water discharge and require pretreatment.	These are direct pollution prevention measures.	Adopt ordinance regulating storm water discharge.	January 2005

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Incorporate City-managed wetlands in the storm water system.	Wetlands can provide a storm water quality benefit.	1. Keep current city-managed wetlands 2. Document the number of acres of new wetlands acquired.	1. Ongoing 2. October 2004; annually thereafter.

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Sweep streets	Cleaning materials from street surfaces keeps it out of the storm drainage system.	Document the number of hours spent annually.	October 2004; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
F. Provide non-sanitary waste disposal facilities on City properties.	Proper disposal waste keeps it out of the storm drainage system.	1. Document the number of garbage receptacles placed on city properties annually. 2. Document tons of waste emptied from dumpsters annually.	1. October 2004; annually thereafter 2. October 2004; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

1. Operation & Maintenance Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
G. Include measures to improve water quality in new detention areas.	Trapping pollutants provides a direct benefit.	Add measures to construction standards.	October 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

2. Inspection & Enforcement Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Develop a set of standard BMPs that can be incorporated into construction projects.	As a whole, these BMPs will reduce storm water pollution.	Add pertinent BMPs to construction standards document.	October 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

2. Inspection & Enforcement Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
B. Review development plans	This helps developers build good practices into their designs.	Document process to incorporate review of plans for adequate storm water protection.	October 2004

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

2. Inspection & Enforcement Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
C. Discuss BMPs in preconstruction review meetings.	This provides a forum to discuss storm water issues and expectations with the owner and contractors just prior to construction.	Discuss applicable BMPs in all preconstruction review meetings.	In place.

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

2. Inspection & Enforcement Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
D. Inspect sites during construction to enforce sediment control and proper disposal of construction waste.	Controlling sediment and proper disposal of construction waste helps keep these materials out of the storm drainage system.	1. Train Public Works and Building Department employees annually on how to watch for and respond to storm water pollution problems. 2. Inspect each new construction site at least once.	1. March 2005 2. As development occurs.

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED
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BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

2. Inspection & Enforcement Procedures

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
E. Require bonding that will be held until final cleanup of construction sites.	The bond encourages contractors to maintain a clean site and to clean up at the conclusion of the project.	Adopt ordinance requiring bonding.	In place

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

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BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

3. Public Employee Training Program

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Train city employees on storm water issues	Promotes awareness of storm water issues	1. Train Public Works and Building Department employees annually. 2. Distribute written information to all employees twice a year.	March 2005; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION

BMP REPORTING FORM

BMP REQUIREMENTS

PART 4, STORM WATER OPERATION PRACTICES

4. Spill Prevention Plan

Best Management Practice	Justification	Measurable Goal	Implementation Schedule
A. Properly dispose of oils, solvents, antifreeze, etc. from municipal works.	Proper disposal of these materials keeps them out of the storm drainage system.	Maintain contracts with companies who dispose of such materials	October 2004; annually thereafter

PERFORMANCE

ACTIVITY CONDUCTED	DATE CONDUCTED

OTHER DOCUMENTATION