



Department of  
**Environmental Health and Safety**  
THE UNIVERSITY OF UTAH

May 18, 2005

Tom Rushing  
Utah Division of Water Quality  
Department of Environmental Quality  
288 North 1460 West  
P.O. Box 144870  
Salt Lake City, UT 84114-4870

Re: UPDES MS4 Permit UTR090024 Annual Report Submittal

Dear Mr. Rushing:

The University of Utah is pleased to submit our Annual Report covering the time period July 2003 through June 2004. We appreciate the extra time given us to submit the report. The additional time allowed us to develop a Storm Water Management Plan that is robust and gives an accurate picture of our program.

If you have any questions about the report or the University's program, please contact our Environmental Specialist, Judy Moran, at 585-1617.

Sincerely,

Michele J. Johnson, MPH  
Associate Director

Cc: Marty Shaub  
Judy Moran

**UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)  
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)  
ANNUAL REPORT FORM**

Reports are to be sent to:

**Utah Division of Water Quality  
Attn: UPDES Storm Water Program  
288 North 1460 West  
P.O. Box 144870  
Salt Lake City, UT 84114-4870**

*Annual reports are due no later than three months from the end of the fiscal year for the reporting MS4. The report is required to be signed and certified in accordance with requirements in the MS4's permit under Part I of this form.*

**Part I. General Information**

- A. Name of Permittee: University of Utah
- B. Permit Coverage No. UTR090024
- C. Mailing Address: Environmental Health & Safety  
125 S. Ft. Douglas Blvd, Building 605  
Salt Lake City, UT 84113
- C. Contact Person: Judy Moran Title: Environmental Specialist
- D. E-Mail Address: judy.moran@ehs.utah.edu
- E. Telephone Number: ( 801) 585 - 1617
- F. Reporting Period (Month/Year-Month/Year): July 2003 - June 2004
- G. List any other entities responsible for implementing the Storm Water Management Plan (SWMP) or a plan component during this reporting period if applicable:
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.
  - 6.

H. Certification Statement:

I certify under penalty of law that this document and all attachments were prepared with direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: \_\_\_\_\_

Printed Name: Michele J. Johnson

Title: Associate Director, Environmental Health & Safety Date:5/18/2005

**Part II– Current Copy of MS4 Storm Water Management Program**

*A copy of the current full storm water management program is to be included as part of this report.*

Check this box to certify that a copy of the plan is included.

**Part III – Best Management Practices (BMP’s) Implemented since Permit Issuance**

*Section to include a report on the status and effectiveness of BMP’s and measurable goals. This part is broken into sections to address each of the six minimum control measures. Supporting documentation may be attached to assist in documenting completion (or partial completion) of storm water program BMP’s during the reporting period.*

**Control Measure 1 – Public Education and Outreach**

A. Describe any educational activities performed during the reporting period that targeted industries (including construction/operators etc.)

<b>BMP Description</b>	<b>Start Date</b>	<b>Completed? Yes/No</b>	<b>Completion Date</b>	<b>Projected Completion Date</b>
Food service & ORL training on grease traps	2004	N		ongoing


B. Describe any educational activities performed during the reporting period which targeted municipal employees:

<b>BMP Description</b>	<b>Start Date</b>	<b>Completed? Yes/No</b>	<b>Completion Date</b>	<b>Projected Completion Date</b>
New employee orientation - hazardous waste disposal	2003	N		ongoing
Hospital Health & Safety Fair	2004	N		ongoing

C. Describe any educational activities performed during the reporting period that targeted highly visible sources of pollution

<b>BMP Description</b>	<b>Start Date</b>	<b>Completed? Yes/No</b>	<b>Completion Date</b>	<b>Projected Completion Date</b>


D. Describe any educational activities performed that target group audiences (school groups, associations, etc. that were not listed above.

<b>BMP Description</b>	<b>Start Date</b>	<b>Completed? Yes/No</b>	<b>Completion Date</b>	<b>Projected Completion Date</b>

E. For each BMP noted in the chart for this section above list measurable goal information that is pertinent per the outline below. If the report is prepared electronically the charts may be copied and pasted in this section. If the report is not prepared electronically a separate section will need to be prepared in this format. **(Note: Expand the report to include #'s 1-4 for each program BMP)**

BMP

(1) General summary

(2) Status of Measurable Goals

(3) Effectiveness

(4) Proposed Modifications

**Control Measure 2 – Public Involvement/Participation**

1. Describe the target audiences for the public involvement program, including a description of the types of ethnic and economic groups engaged, affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowners associations, other organizations, etc. (Expand this section as needed).

University students, employees, and contractors (construction and food service)

2. Activities (BMP’s) that have been implemented (or partially implemented) for this control measure, e.g. citizen panels, public hearings, citizen volunteer programs, etc.

<b>BMP Description</b>	<b>Start Date</b>	<b>Completed? Yes/No</b>	<b>Completion Date</b>	<b>Projected Completion Date</b>
Public meetings seeking input to Campus Long Range Development Plan	May 2003	No		ongoing

3. For each BMP noted in the chart for this section above list measurable goal information that is pertinent per the outline below.

BMP Public meetings seeking input to Campus Long Range Development Plan

- (1) General summary

As a part of its ongoing community outreach, the University seeks input from the public on its Long Range Development Plan

(2) Status of Measurable Goals

The University has not started evaluating the effectiveness of this outreach with respect to the storm water management program.

(3) Effectiveness

(4) Proposed Modifications

**Control Measure 3 – Illicit Discharge Detection and Elimination**

1. a. Provide the date when the MS4's storm water ordinance was adopted or last updated (Note if not yet adopted) No ordinance will be adopted
- b. If the ordinance was adopted or updated during this reporting period, then a copy of the attested ordinance should be attached to this report. Is a copy of the ordinance attached? Yes  No
2. Provide information on illicit discharge detection activities, including such things as industrial inspections, stream walks, smoke or dye testing, line televising, etc (attach additional sheet if necessary):

Type of Inspection	Details: who performed activity, date performed, number of facilities inspected, miles walked, etc.

3. Provide information on dry weather field screening activities conducted during the reporting period:
  - a. Outfall screening
    1. How many outfalls were screened by the MS4 during the reporting period?  
0

2. Of the outfalls screened during the reporting period, at how many of the outfalls did the MS4 identify flow?
  
3. For those outfalls with dry weather flow detected, provide information on the results of source identification activities. If laboratory testing was performed in order to verify a pollutant identity, then complete the last column of the table (attach additional sheet if necessary):

<b>Outfall Designation (number or location)</b>	<b>Date Field Screening Performed</b>	<b>24-Hour Rescreening? (Yes/No)</b>	<b>Date Laboratory Testing Performed</b>

4. For those outfalls with dry weather flow identified, describe the investigative measures taken to identify the source, the identified source, and if the source was eliminated:
  
5. Provide information on any spill incidents which occurred during the reporting period, in which a substance entered the storm sewer system:

<b>Spill Date</b>	<b>Spill Location</b>	<b>Party Responsible for Spill</b>	<b>Substance(s) Spilled</b>	<b>Amount Spilled</b>
1/31/2004	parking lot near bldg 664	investigated by University Police Department	used motor oil	about 3 quarts

6. Describe any activities performed during this reporting period to publicize and facilitate public reporting of illicit discharges (provide details, where appropriate):

Hospital Health & Safety Fair and Urban Environmental Geography course

7. Describe any activities performed during this reporting period to facilitate the proper management and disposal of used oil and toxic materials, including educational activities, household waste collection programs, etc (provide details where appropriate, such as dates):

EHS website provides information on waste disposal procedures, as well as having an automated waste pickup request form. New Employee orientation covers the topic of waste disposal.

8. Describe any activities performed during this reporting period to detect and eliminate seepage from municipal sanitary sewers to the storm sewer system:

check with the plumbing shop

9. List any BMP's implemented by the MS4 for this measure in the chart below

<b>BMP Description</b>	<b>Start Date</b>	<b>Completed? Yes/No</b>	<b>Completion Date</b>	<b>Projected Completion Date</b>
storm sewer system mapping	April 2003	yes	7/8/2003	December 2005

10. For each BMP noted in the chart for this section above list measurable goal information that is pertinent per the outline below.

BMP storm sewer system mapping

(1) General summary

A storm sewer system map dated 7/8/2003 exists.  
 A number of computer models and analyses have been prepared for the University (1990, 1996, 1998, 2003), however pipe slopes, elevations, actual as-built locations were not available for the entire system, and are part of the ongoing mapping and modeling effort.

(2) Status of Measurable Goals

Complete mapping, including elevations, slopes, and as-built locations, is expected to be complete by the end of 2005

(3) Effectiveness

Modeling efforts have resulted in good understanding of sources and system loads

(4) Proposed Modifications

none

**Control Measure 4 – Construction Site Storm Water Runoff Control**

1. a. When was the MS4s ordinance to control soil erosion and sediment adopted or last updated? (Note if not yet adopted)

Campus design standards and contractual agreements are used in lieu of an ordinance

- b. If the ordinance was adopted or updated during this reporting period, then a copy of the attested ordinance should be attached as an addendum to this report. Is a copy of the ordinance attached?

Yes  No

2. Provide information on any site planning procedures for construction projects performed during the reporting period:

a. Number of site plan reviews conducted: 0

b. Number of site plans approved: 0

c. Other (please describe):

3. Provide information on construction site inspections during the reporting period:

a. How many active construction sites were inspected during the reporting period? 0

b. How many total inspections of these active construction sites were conducted during the reporting period?

0

c. How many full-time equivalents were employed by the MS4 to inspect construction sites during the reporting period?

4. Provide information on enforcement activities (e.g. stop work orders, warning letters, etc) at construction sites for erosion and sediment control violations taken during the reporting period (attach additional sheets if necessary):

Site Location	Type of Enforcement Action	Date of Enforcement

5. Were any education and/or training measures for construction site operators conducted (besides those under measure 1) during the reporting period? Yes  No

If yes, provide details:

- a. Type(s) of training conducted?
- b. Date(s) of training:
- c. Who performed the training:
- d. Who received the training:
- e. Did the training result in some type of certification? Yes  No

If yes, please explain:

6. List any BMP's implemented by the MS4 for this measure in the chart below

BMP Description	Start Date	Completed? Yes/No	Completion Date	Projected Completion Date

7. For each BMP noted in the chart for this section above list measurable goal information that is pertinent per the outline below.

BMP

(1) General summary

(2) Status of Measurable Goals

(3) Effectiveness

(4) Proposed Modifications

**Control Measure 5 --Post-Construction Storm Water Management in New Development and Redevelopment**

1. Provide a summary of the initiative of the post construction storm water management program (e.g. limiting growth to identified areas, engineering structural specifications for treating post construction runoff, policies to encourage infill development in existing higher density areas, minimization of impervious areas and mechanisms etc.)

The Campus Long Range Development Plan , 2003 U of U Campus Utilities Study, and Design Standards that require "storm water control systems that will not increase flow into the University's storm water system." Significant effort and funds have been spent on parking demand management, i.e., University shuttle system, free UTA passes for students and employees. The U campus is a state-designated arboretum, all trees are inventories, and the Design Standards require that 2 trees be planted for each tree destroyed. The U has made a permanent comittment to build no farther east than the current campus footprint

2. Does the post-construction program include a regulatory mechanism such as an ordinance? If so please describe how the mechanism will work to help achieve the initiatives in question 1 above. If a regulatory mechanism has not yet been developed provide a brief description of planned policy enactment.



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

### Structural and Source Control Measures

#### 1. Structural Controls

How many permanent control structures for which the MS4 is responsible were added during this reporting period? No ditches or detention ponds were added; catch basins and drain lines were likely added as a result of campus expansion, particularly in the Research Park area.

Including the structures added this reporting period, what is the total number of permanent control structures which the permittee is responsible for inspecting and maintaining? There are four (4) ditches or detention ponds that are maintained by on-campus resources. Structures in Research Park are not maintained by U of U Plant Operations. There are hundreds of catch basins at the University, and miles of storm drain lines for which the University is responsible.

What is the frequency at which permanent control structures were inspected or maintained during this reporting period?

Catch basins on campus are inspected in the Fall and cleaned out if needed. Other structures are cleaned and/or repaired as the need arises (i.e., if plugged or damaged).

How many permanent control structures were inspected during this reporting period:

catch basins	all	per reporting period
ditches		per reporting period
detention ponds		per reporting period
storm drain lines		per reporting period
Other		per reporting period

How many permanent control structures were maintained during this reporting period:

catch basins	per reporting period
ditches	per reporting period
detention ponds	per reporting period
storm drain lines	per reporting period
Other	per reporting period

Describe any tasks associated with control structure inspection and maintenance (e.g. repairs), not addressed in the questions above

#### 2. Master Plan

- a. Does your municipality have a comprehensive planning document (e.g. Master Plan), which in part addresses storm water? Yes  No
- b. If the answer to 2.a was “yes”, describe any changes made to the storm water portion of the comprehensive planning document performed during the reporting period: no changes

3. Street Maintenance

- a. How many miles of streets were swept during the reporting period?  
The University does not keep a record of the number of miles of streets swept. University (campus) streets and parking lots are swept in the Fall and Spring. Research Park streets/parking lots are not swept by University Plant Operations.
- b. Describe any litter removal activities performed during the reporting period (e.g. dates, people performing litter pickup, etc), including the amount of debris removed (pounds), if known: Grounds crews collect litter throughout campus continually.
- c. Describe any practices for maintaining streets that were not addressed in the questions above (deicing practices, road repair procedures, etc): Parking lots, building access roads, and sidewalks are de-iced as needed. Magnesium chloride is used as the de-icing material. Runoff from the salt storage area is collected in a retention basin (no piped outlet; excess water, if any, is pumped out).

4. Flood Management Projects

- a. Were any existing flood management projects (e.g. wet or dry retention basins, channels) evaluated during the reporting period to determine if retrofitting the device for additional pollutant removal is feasible? Yes  No
- b. If the answer to question 4.a is yes, please provide details on the location of the flood management project and the evaluation performed (date, what did evaluation consist of, outcome):
- c. Did you inspect any of the following municipal facilities during the reporting period for storm water runoff control measures:

Facility Inspected	Yes	No	Not applicable
Publicly owned water treatment plants			x
Publicly owned wastewater treatment plants			x
Municipal incinerators			x

Municipal solid waste transfer facilities			X
Land application sites			X
Transportation fleet maintenance and storage yards		X	
Sludge disposal or treatment sites			X
Municipally owned landfills			X
Other sites (provide details):			X

Documentation of each inspection performed should be attached as an addendum to this report. Are completed inspection reports or some other type of documentation attached? Yes  No

Were any control measures to reduce runoff implemented during the reporting period at the facilities listed in question Part II.A.5.e above? Yes  No

If yes, provide details:

5. Pesticide, Fertilizer, Herbicide Application

- a. Were any of the following tasks related to a pesticide, herbicide, fertilizer management program completed during the reporting period:

Task Completed	Yes	No	Not Applicable
Developed or updated inventory of pesticides, herbicides, and fertilizers used by MS4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducted applicator training or certification training	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducted municipal employee safety training in use, storage and disposal of chemicals	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducted safety training of private applicators in use, storage and disposal of chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implemented program for municipal use of native or low-maintenance vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. List all BMP's implemented by the MS4 for this measure in the chart below

BMP Description	Start Date	Completed? Yes/No	Completion Date	Projected Completion Date


7. For each BMP noted in the chart for this section above list measurable goal information that is pertinent per the outline below.

**BMP**

(1) General summary

(2) Status of Measurable Goals

(3) Effectiveness

(4) Proposed Modifications

**Part IV -- Annual Expenditures for Permit Compliance**

1. Reporting Period Expenditures

- a. What was the funding source(s) for this reporting period's expenditures?  
no specific funding source was identified for this program; funding came from the existing budgets of various University departments

- b. A summary of the expenditures for the administration of the storm water management program during the reporting period should be attached as an addendum to this report. Is a copy of last reporting period's expenditures attached? Yes  No

2. Next Reporting Period's Budget

- a. What will be the funding source for next reporting period's budget?  
same as above
- b. A summary of the proposed budget for the storm water management program for the next reporting period should be attached as an addendum to this report. Is a copy of the proposed budget for the next reporting period attached?  
Yes  No

3. Staffing

- a. How many full-time equivalents were dedicated to the administration of the SWMP during the reporting period? 0.1 FTE
- b. Did the amount of full-time equivalents dedicated to the administration of the SWMP during this reporting period differ from the previous reporting period either by an increase or decrease in numbers? Yes  No
- c. If yes, please explain whether it was a decrease or increase and the reason for the staff differences increase; there was no program to administer the previous year

**Part V – Five Year Implementation Schedule**

*This part is required for the first year annual report for all entities covered under the UPDES General Permit for Small Municipal Separate Storm Sewer Systems, General Permit No. UTR090000. Entities within Salt Lake County that are part of the Phase I Co-Permit do not need to complete this section.*

*This section requires a listing with dates and measures satisfied for all best management practices, which will be implemented over the five year permit cycle (Dec. 7, 2002 to Dec. 7, 2007). A program in compliance with the permit must be implemented no later than Dec. 7, 2007. The program implementation schedule dates must include both month and year.*

Best Management Practice	Implementation Schedule Month/Year	Min Control Measure					
		1	2	3	4	5	6
<i>Example: Create and Pass an Enforceable Ordinance Requiring Sediment and Erosion Control at Construction Sites Which Disturb</i>	June/2006				X		

Best Management Practice	Implementation Schedule Month/Year	Min Control Measure					
		1	2	3	4	5	6
<i>more than One Acre</i>							

November 7, 2005

***UNIVERSITY OF UTAH***  
**STORM WATER**  
**MANAGEMENT PROGRAM**  
**PLAN**

*To fulfill requirements in the Small Municipal Separate Storm Sewer System  
General Permit UTR090024*



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## GLOSSARY

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BMP	Best Management Practices	
MEP	Maximum Extent Practicable	MEP is a standard that establishes the level of pollutant reductions that the MS4 operators must achieve through implementation of a storm water management program. The strategies used to reduce pollutants to the MEP may be different for each small MS4 because of unique local hydrologic, geologic, and water quality concerns in different areas. EPA envisions that permittees will determine what the MEP is on a location-by-location basis and consider such factors as conditions of receiving waters, specific local concerns, and other aspects of a comprehensive watershed plan.
MCM	Minimum Control Measures	The six storm water management program elements defined in the Phase II storm water rules
MS4	Municipal Separate Storm Sewer System	<p>According to 40 CFR 122.26(b)(8), a municipal separate storm sewer system means a conveyance or system of conveyances (including roads with drainage systems, municipal street, catch basins, curbs, gutters, ditches, man-made channel, or storm drains):</p> <p>Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to state law)...including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States</p> <p>Designed or used for collecting or conveying storm water</p> <p>Which is not a combined sewer</p> <p>Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2</p>
NOI	Notice of Intent	
	Measurable Goals	BMP design objectives or goals that quantify the progress of program implementation and the performance of the University's BMPs. They are objective milestones that the University and the

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		Utah Division of Water Quality use to track the progress and effectiveness of the University's BMPs in reducing pollutants to the MEP.
SPCC Plan	Spill Prevention, Control, & Countermeasure Plan	Plan and program required by 40 CFR 112 for facilities storing or using oil
SWMP	Storm Water Management Program	
TMDL	Total Maximum Daily Load	
UDEQ	Utah Department of Environmental Quality	
UDWQ	Utah Division of Water Quality	
UPDES	Utah Pollutant Discharge Elimination System	

## **INTRODUCTION**

The purpose of this Storm Water Management Program (SWMP) is to comply with Utah Department of Environmental Quality's (UDEQ) general permit (UTR090024) for the discharge of storm water from the Municipal Separate Storm Sewer System (MS4) of the University of Utah Campus, hereafter described as "University." The University desires to discharge under that permit and thus has completed the Notice of Intent (NOI) and this SWMP in accordance with Part II and Part IV of the permit. The University intends to fully implement the conditions in this SWMP no later than April 2, 2008.

## **Plan Organization**

The introductory section of this plan describes the key elements of the permit issued by the UDEQ and how the University is responding to each of these elements. The storm water management program is based on the Minimum Control Measures (MCMs) and the actions the University is taking to address each. Each of the six minimum control measures is described on a separate table (Tables 1.1 through 6.2). Tables 1.1, 2.1, 3.1, 4.1, 5.1, and 6.1 provide the best management practices (BMPs), measurable goals, and implementation schedule for each of the MCMs. Tables 1.2, 2.2, 3.2, 4.2, 5.2, and 6.2 present the UPDES permit requirements and the University program's response to each of these requirements.

## **Storm Water Management Program**

The University has evaluated the permit requirements for the six MCMs specified in Part IV. of the general permit. Based on that review, the University has selected BMPs for each MCM that the University believes will accomplish the goal of reducing pollution from storm water runoff to the maximum extent practicable (MEP). The following have been identified as potential storm water pollution concerns at the University of Utah:

- Total system load and rate of discharge – a function of the amount of directly connected impervious surfaces
- Sediment – from construction activities and eroding slopes
- Floatables – leaves, litter, and other debris
- Oil & grease – from parking lots, material handling, spills and leaks, and illegal dumping

The University has identified dates by which implementation of each BMP will begin, targeted completion dates for full implementation of each BMP, measurable goals and responsible persons for each action. This plan provides the rationale for how and why each of the BMPs and measurable goals for the University's storm water management program were selected.

## **Responsibility**

The University will have the sole responsibility to implement all measures within this SWMP. Non University-owned entities collocated with the University (e.g., Utah State Health Department, Primary Children's Medical Center, privately-owned entities

in Research Park) are not subject to this Plan, nor is the University of Utah able to enforce or otherwise control the storm water pollution that may be generated by activities at these non University-owned facilities.

## **Reviewing and Updating the SWMP**

The University will review the SWMP in July of each year starting in July 2005 and evaluate the implementation status of the SWMP components as well as the effectiveness of each component or combination of components. Documentation of the results of these reviews will be maintained in Appendix A. The University will determine how the SWMP needs to be revised, if at all. If the SWMP needs to be revised, the University will notify UDEQ of any revisions. If the University wishes to remove components of the program, the University must submit to the Executive Secretary of the Water Quality Board the proposed revisions with an explanation of why the practice is ineffective and how we plan to achieve the program goals.

## **Program Contact**

This plan was initially prepared by the Environmental Health & Safety Department with input from Facilities Management and Faculty from the Civil & Environmental Engineering and the Communications Departments. Questions about or comments on the storm water program should be directed to:

<b>Primary</b>	<b>Backup</b>	<b>Construction-related</b>
Judy Moran	Michele Johnson	Joe Harman
Environmental Specialist, EH&S	Associate Director, EH&S	Team Leader, Campus Design & Construction
801-585-1617	801-585-9322	801-581-7580
<a href="mailto:judy.moran@ehs.utah.edu">judy.moran@ehs.utah.edu</a>	<a href="mailto:michele.johnson@ehs.utah.edu">michele.johnson@ehs.utah.edu</a>	<a href="mailto:joseph.harman@fm.utah.edu">joseph.harman@fm.utah.edu</a>

## **Monitoring**

The University will evaluate program compliance, the appropriateness of identified BMPs, and progress towards achieving identified measurable goals. The majority of the University of Utah's storm water runoff is discharged to the Salt Lake City storm sewer system; a small percentage is either captured in detention basins and swales and eventually infiltrates into the soil; is conveyed to dry wells on campus and is discharged to the subsurface, or is discharged to Red Butte Creek or Dry Creek, an ephemeral stream. At this time, a Total Maximum Daily Load (TMDL) has not been established for the Salt Lake City drainage systems' receiving waters.

The University does not currently, nor does it plan to, sample and analyze the discharge from the small MS4.

## **Annual Report**

The University will submit annual reports by October 1 of each year for the preceding period of July 1 through June 30. The University will report on the information required in Part IV.D. of the

permit.

## **Legal Authority**

The majority of the MS4 is comprised of University of Utah owned and operated facilities. Through its ownership and control, the University controls discharges to and from the MS4, as described in this plan. Certain collocated facilities such as the Stephen A. Douglas Army Reserve Center, Primary Children's Medical Center, Utah State Health Department, and others not specifically identified herein have no relation to the University, and so the University has no control over discharges from these facilities to the MS4.

## **UTAH PERMIT ELEMENTS**

### **Minimum Control Measures**

The six (6) minimum control measures (MCM), which must be included in the University's storm water management program, are:

#### **1. Public education and outreach on storm water impacts**

*The University 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.*

Table 1.1 shows the best management practices (BMPs) that the University will implement for this MCM and Table 1.2 provides the rationale for how and why each of the BMPs and measurable goals were selected

#### **2. Public involvement/participation**

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

Table 2.1 shows the best management practices (BMPs) that the University will implement for this MCM and Table 2.2 provides the rationale for how and why each of the BMPs and measurable goals were selected.

#### **3. Illicit discharge detection and elimination**

*The University must:*

- *Develop, implement and enforce a program to detect and eliminate illicit discharges into the small MS4*
- *Keep an updated storm sewer system map, showing the location of all outfalls and the names and locations of all waters of the State that receive discharges from these outfalls*
- *To the extent allowable under State or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the storm sewer system and implement appropriate enforcement procedures and actions*
- *Develop, implement and adequately fund a plan to detect and address non-storm water discharges, including illegal dumping, to the system*

- *Inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste*
- *Address the following categories of non-storm water discharges or flows (i.e., illicit discharges) only if identified as significant contributors of pollutants to the MS4: water line flushing, landscaping irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, 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, street wash water, and other similar, occasional incidental non-storm water discharges that will not be addressed as illicit discharges.*

Table 3.1 shows the best management practices (BMPs) that the University will implement for this MCM and Table 3.2 provides the rationale for how and why each of the BMPs and measurable goals were selected.

#### **4. Construction site storm water runoff control**

*The University must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the 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 the program if that construction activity is part of a larger common plan of development that would disturb one acre or more. The program must include the development and implementation of, at a minimum:*

- *An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under local law*
- *Requirements for construction site operators to implement appropriate erosion and sediment control best management practices*
- *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*
- *Procedures for site plan review, which incorporate consideration of potential water quality impacts and review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements*
- *Procedures for receipt and consideration of information submitted by the public*
- *Procedures for site inspection and enforcement of control measures*

Table 4.1 shows the best management practices (BMPs) that the University will implement for this MCM and Table 4.2 provides the rationale for how and why each of the BMPs and measurable goals were selected.

#### **5. Post-construction storm water management in new development and redevelopment**

*The University 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 that have been designated to protect water quality, that discharge into the MS4. The program must ensure that controls are in place that will protect water quality and reduce the discharge of pollutants to the maximum extent practicable (MEP).*
- *Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the community that will reduce the discharge of pollutants to the MEP*
- *Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under local law*
- *Ensure adequate long-term operation and maintenance of BMPs*

Table 5.1 shows the best management practices (BMPs) that the University will implement for this MCM and Table 5.2 provides the rationale for how and why each of the BMPs and measurable goals were selected.

## **6. Pollution prevention/good housekeeping for University operations**

*The University must:*

- *Develop and implement an operation and maintenance program that includes a training component and is designed to reduce the discharge of pollutants to the MEP*
- *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*

Table 6.1 shows the best management practices (BMPs) that the University will implement for this MCM and Table 6.2 provides the rationale for how and why each of the BMPs and measurable goals were selected.

**PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS**

<b>TABLE 1.1 Public Education and Outreach: BMPs and Measurable Goals</b>			
Best Management Practice	Measurable Goal(s)	Start Date	Target Date for Achievement / Implementation
<u>1.1</u> Develop internally or collect brochures, fact sheets, and other educational materials from federal, state, and local agencies or other MS4 web sites.	<ul style="list-style-type: none"> <li>- Obtain Storm Water Outreach materials from various sources, including, but not limited to, EPA's office of Wastewater Management</li> <li>- Write one (1) article on storm water awareness for <i>Inside U</i> newsletter</li> </ul>	April 9, 2003	2005
<u>1.2</u> Distribute information to campus community (employees, students, construction contractors, and services vendors).	<ul style="list-style-type: none"> <li>- Distribute household hazardous waste brochures to employees at University events, such as Employee Appreciation Day, the Hospital Health &amp; Safety Fair, and other such venues</li> <li>- Distribute information to students through activities (such as parking registration, bus pass distribution, RedFest and other campus wide activities)</li> <li>- Distribute information to contractors and vendors via design guidelines and instructions to vendors</li> </ul>	April 9, 2003	2007
<u>1.3</u> Establish a web page for the Storm Water Management Program.	<ul style="list-style-type: none"> <li>- EHS will add information on storm water pollution prevention and the University SWMP to the EHS web page</li> <li>- EHS will update the information on the webpage as necessary.</li> </ul>	2005	2006
<u>1.4</u> Develop classroom educational materials and present class segment	<ul style="list-style-type: none"> <li>- Develop curriculum for Urban Environmental Geography and Storm Water Design course</li> <li>- Offer course</li> </ul>	April 9, 2003	2004

**TABLE 1.2**  
**Public Education and Outreach: Rationale**

This table documents the decision process of the University for the development of a storm water public education and outreach program. The rationale statement addresses both the overall public education program and the individual BMPs, measurable goals and responsible persons for the program. The rationale statement includes the following information:

UPDES Permit Language	University of Utah Program Description
<i>How the University plans to inform individuals and households about the steps they can take to reduce storm water pollution</i>	Printed materials distributed at campus-wide events and new employee orientation, newsletters, and through urban planning class
<i>How the University plans to inform individuals and groups on how to become involved in the storm water program</i>	Printed materials distributed at campus-wide events and new employee orientation; posters on campus; EHS website
<i>Define the target audiences for the education program who are likely to have significant storm water impacts (including commercial, industrial and institutional entities) and why those target audiences were selected</i>	<p>The target audiences listed below were selected based on the professional judgment (about potential storm water impacts) of the EHS Department:</p> <ul style="list-style-type: none"> <li>- Residential students with cars</li> <li>- Daily commuters (students and employees)</li> <li>- Facilities departments' employees</li> <li>- Construction contractors</li> </ul>
<i>Define target pollutant sources the education program is designed to address</i>	Hazardous/chemical waste, oil and grease from parking lots and plant maintenance operations, fertilizers and pesticides, sediment from construction sites, litter and general refuse
<i>Define the outreach strategy, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) that will be used to reach target audiences, and how many people are expected to be reached by the strategy over the permit term</i>	<p>Printed materials distributed at campus-wide events and new employee orientation, newsletters, urban planning class, and EHS &amp; CDC websites</p> <p>Construction-specific workshops may be held for staff and contractors doing work on site</p> <p>Training workshops (e.g., SPCC training) will be held for campus maintenance and operations staff</p> <p>The University expects to be able to reach over 30,000 people over the permit term</p>
<i>The responsible person for overall management and implementation of the storm water public education and outreach program and, if different, the responsible person for each of the BMPs identified for this program</i>	Director, Environmental Health and Safety who may delegate certain aspects of program management to the appropriate staff member(s)
<i>Define a method for evaluating the success of these minimum measures,</i>	The number of participants in educational sessions, the number of personal

*including how the measurable goals for each of the BMPs was selected*

and telephone inquiries about the program and the number of website hits will be used to gauge the effectiveness of these outreach strategies.

The effectiveness of education sessions (workshops, training meetings) will be determined by participant assessments and evaluations during the sessions.

**PUBLIC INVOLVEMENT/PARTICIPATION**

**TABLE 2.1  
Public Involvement/Participation: BMPs and Measurable Goals**

Best Management Practice	Measurable Goal(s)	Start Date	Target Date for Achievement / Implementation
<p><u>2.1</u> The University will designate a local storm water contact available to provide information and seek input from the public. Some methods to ask for this public input are:</p> <ul style="list-style-type: none"> <li>- As a part of monthly neighborhood meetings</li> <li>- Place notice asking for input to the SWMP in the Chronicle and/or FYI</li> <li>- Advertise availability on website</li> <li>- List contact information on posters, handouts, etc.</li> </ul>	<p>Present at least annually at a Community Forum meeting where feedback will be sought.</p>	<p>2005</p>	<p>2006</p>
<p><u>2.2</u> The University Health &amp; Safety Committee will establish a storm water management subcommittee and invite faculty, staff, and students to serve on the subcommittee</p>	<p>The Health &amp; Safety Committee will meet annually to review the storm water program</p>	<p>2005</p>	<p>2005</p>
<p><u>2.3</u> The University will provide public access to storm water program documents, including this plan and each annual report</p>	<p>Place SWMP and annual reports in EHS library/Marriott Library/EHS website/link to Facilities website</p>	<p>2005</p>	<p>2006</p>
<p><u>2.4</u> The University will involve members of the Campus Community (students, faculty and staff) in the tree replacement program</p>		<p>2005</p>	<p>2006</p>

**TABLE 2.2**  
**Public Involvement/Participation: Rationale**

This table documents the overall public involvement/participation program and the individual BMPs, measurable goals, and responsible persons for the program.

UPDES Permit Language	University of Utah Program Description
<i>How the public has been involved in the development and submittal of the NOI and storm water management program</i>	The public was not involved in the development and submittal of the NOI in order to meet the April 2003 deadline. Comment will be sought on the storm water management program. However, public participation has been and continues to be an integral part of the University's long-range development planning process. The Long Range Development Plan includes a storm water management component, as well as other environmental impact considerations associated with increased traffic and facility build-out.
<i>How the public will be actively involved in the development and implementation of the program</i>	Input will be sought from staff and faculty via meetings and e-mail; input will be sought from students via on-campus environmental advocacy groups. Input to the Long Range Development Plan will continue to be sought from the public (which includes the surrounding neighborhood community).
<i>Define the target audiences for the public involvement program, including a description of the types of ethnic and economic groups engaged.</i>	University employees, contractors, vendors and students are the primary audiences; if other stakeholders are identified during the development and implementation of this program, they will be included in the public participation component of the University storm water program
<i>Define the types of public involvement activities included in the program. Where appropriate, consider the following types of public involvement activities: citizen representatives on a storm water management panel; public hearings; working with citizen volunteers willing to educate others about the program; and volunteer monitoring or stream cleanup activities</i>	<p>Monthly public meetings are held with University neighbors.</p> <p>Monthly information exchange (MIX) meetings are held on projects under construction. These meetings are geared to the staff and faculty, and are forums for input into construction storm water management issues.</p> <p>The EHS website will be used to solicit comments on program plans. The extent of review and response will be determined by the volume and content of comments. The University replaces each tree lost with two trees. Currently individuals can donate money for replacement trees, but the program is not formalized or advertised. We will develop a program called the "University Legacy Tree Program" where the campus</p>

	community and wider public is invited to donate money and then have a virtual plaque on the EHS storm water website.
<i>The responsible person for the overall management and implementation of the storm water public involvement/participation program and, if different, the responsible person for each of the BMPs identified for this program</i>	Various departments within Administrative Services are responsible for individual public involvement/participation activities (e.g., public involvement in long range development planning). However, the Director of the Environmental Health & Safety Department is responsible for the overall management and implementation of the storm water public involvement/participation program.
<i>Define a method for evaluating the success of these minimum measures, including how the measurable goals for each of the BMPs was selected</i>	The number of comments received, inquiries made, etc. will be tracked and reported in the Annual Report.

## ILLICIT DISCHARGE DETECTION AND ELIMINATION

**TABLE 3.1**

**Illicit Discharge Detection and Elimination: BMPs and Measurable Goals**

Best Management Practices	Measurable Goal(s)	Start Date	Target Date for Achievement/ Implementation
<u>3.1</u> System mapping - The University already has a detailed storm sewer map that shows storm sewer pipes and interconnection with Salt Lake City's system.	Each inlet, with elevations and GPS coordinates, and all permanent structures, will be mapped.	April 2003	2006
<u>3.2</u> Regulatory control program - Generic policies exist - Criminal code (state of Utah) exists	Develop policies specific and relevant to functional areas (e.g., housing contract language, food service contract language)	2005	2006
	Enforcement of policies at department level	2003	2008
	Criminal enforcement for illegal dumping	2003	2005
<u>3.3</u> Identifying and eliminating illicit connection procedures	Illegal dumping – contacts for reports of illegal dumping sitings will be identified and posted on the storm water website	2005	2006
	Website will allow illegal dumping reports	2006	2007
	Sanitary sewer leaks and improper connections (e.g., swimming pool discharges to storm sewer) - potential system weaknesses will be identified, and a plan developed to address illicit connections.	2005	2008
<u>3.4</u> Dry weather field screening and testing - Priority locations will be determined based on system map	Determine priority locations	2005	2006
	Screen 50% of priority locations each year until all priority locations have been screened	2006	2008

**TABLE 3.2**

**Illicit Discharge Detection and Elimination: Rationale**

This table documents the University’s decision process for the development of a storm water illicit discharge detection and elimination program. The table addresses the overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for the program.

UPDES Permit Language	University of Utah Program Description
<p><i>The process of developing a storm sewer map showing the location of all outfalls and the names and locations of all receiving waters. Describe the sources of information used for the maps, and how you plan to verify the outfall locations with field surveys.</i></p> <p><i>If already completed, describe how the map was developed and the process for keeping the map updated.</i></p>	<p>Numerous electronic and hard copy drawings were gathered and compiled. Drawings were reviewed with University and Salt Lake City personnel to tap into their collective knowledge concerning facility locations.</p> <p>Pipe slopes, elevations, and GPS coordinates are currently being collected in an effort to improve the system mapping.</p>
<p><i>The mechanism (ordinance or other regulatory mechanism) which will be used to effectively prohibit illicit discharges into the MS4 and why the particular mechanism was chosen. If the mechanism is being developed, describe the plan and schedule to do so. If the ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the program.</i></p>	<p>University Policy endorses programs which assure compliance with both the spirit and intent of national, state, and local regulations providing for environmental and occupational safety and health. Any violation of the storm water regulations would be contrary to the University Policy. The Policy further identifies responsibility and accountability for environmental issues.</p> <p>Housing lease agreements prohibit dumping hazardous substances; food service contracts require that gray water, grease, and other food preparation wastewater be disposed via the sanitary sewer, not storm drains.</p> <p>The effectiveness of these mechanisms will be determined in years two and three.</p>
<p><i>The plan to ensure through appropriate enforcement procedures and actions that the illicit discharge ordinance (or other regulatory mechanism) is implemented</i></p>	<p>Employees whose jobs have the potential to impact storm water quality will be trained on what is expected of them. If in the course of their jobs they do something that negatively impacts or has the potential to negatively impact storm water quality, they will be disciplined. Policy violations by University employees are subject to progressive discipline. Incidents of illegal dumping (e.g., pouring motor vehicles fluids in the gutter or into storm drain catch basins, dumping gray water into the storm drainage system, etc.) will be treated as criminal acts. The University Police Department will investigate these cases and refer</p>

	<p>them to the Salt Lake County District Attorney’s office for prosecution. Contract violations may result in monetary penalties and/or revocation of contracts.</p>
<p><i>The plan to detect and address illicit discharges to the system, including discharges from illegal dumping and spills. The plan must include dry weather field screening for non-storm water flows and field tests of selected chemical parameters as indicators of discharge sources. The plan must also address on-site sewage disposal systems that flow into the storm drainage system.</i></p>	<p>The University will observe priority outfalls during periods of dry weather. The results of this initial screening will be used to narrow down the parts of the storm sewer system that warrant additional investigation for illicit discharges. Groundwater infiltration, snowmelt runoff and irrigation may make it impossible to visually identify illicit discharges; if that is the case, then other methods (e.g., line tracing, chemical parameter testing) may be employed.</p> <p>As-built drawings and other building plans will be reviewed to identify potential illicit discharges from sewer cross connections when a potential cross connection is identified by the dry weather field screening.</p> <p>Discharges from illegal dumping are generally confined to small quantities/short duration of each event – EHS website will have mechanism to report illegal dumping sitings</p> <p>Discharges from spills – spills are reported to EHS and promptly investigated.</p>
<p><i>Procedures for locating priority areas which includes areas with higher likelihood of illicit connections (.e.g., areas with older sanitary sewer lines) or ambient sampling to locate impacted reaches</i></p>	<p>The University will identify areas of campus with older sewer lines; this information will be used after the initial field screening, if any dry weather flows are observed.</p>
<p><i>Procedures for tracing the source of an illicit discharge, including the specific techniques that will be used to detect the location of the source</i></p>	<p>Techniques from <i>Illicit Discharge Detection &amp; Elimination – A Guidance Manual for Program Development and Technical Assessments</i> from the Center for Watershed Protection will be used.</p>
<p><i>Procedures for removing the source of the illicit discharge</i></p>	<p>Plans will be developed to remedy illicit discharges from sewer cross connections or leaking sewer pipes. These plans will include identifying funding sources, obtaining funding, and developing timelines for repairs.</p> <p>If illicit discharges are from intentional dumping, responsible party will be ordered to cease the illicit activity and it will be reported to the UPD; if leaking storage areas or containers, the area or containers will be repaired or replaced by the party responsible for the area or containers.</p>

<p><i>Procedures for program evaluation and assessment</i></p>	<p>The program will be evaluated against a reasonable implementation schedule. For instance, the number of outfalls screened versus the total number of outfalls may be a reasonable program metric.</p>
<p><i>Procedures to inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste. Include in your description how this plan will coordinate with your public education minimum measures and your pollution prevention/good housekeeping minimum measures programs.</i></p>	<p>Employees are trained on proper waste disposal methods; information on household waste disposal will be distributed to residents of the University Village housing areas; at least one article on storm water pollution prevention will be published in print or electronic media available at the University; information on illegal discharge and what constitutes improper waste disposal will be posted on the University's storm water website.</p>
<p><i>The responsible person for the overall management and implementation of the storm water illicit discharge detection and elimination program and, if different, the responsible person for each of the BMPs identified for this program.</i></p>	<p>The Associate VP for Facilities Management is responsible for the overall management and implementation of the storm water illicit discharge detection and elimination program.</p>
<p><i>Define a method for evaluating the success of the minimum measures, including how the measurable goals for each of the BMPs was selected</i></p>	<p>Increased system knowledge will be the key to successfully eliminating illicit discharges.</p>

**CONSTRUCTION SITE STORM WATER RUNOFF CONTROL**

**TABLE 4.1**

**Construction Site Storm Water Run-off Control: BMPs and Measurable Goals**

Best Management Practices	Measurable Goal(s)	Start Date	Target Date for Achievement/Implementation
<p><u>4.1</u> The following construction site BMPs, among others, will be employed:</p> <ul style="list-style-type: none"> <li>- Perimeter controls</li> <li>- Construction entrance/exit stabilization</li> <li>- Mulching requirements</li> <li>- Temporary/permanent stabilization requirements</li> <li>- Sediment retention structure requirements</li> <li>- Vehicle maintenance and washing areas</li> <li>- Cement truck washout area</li> </ul>	<p>Standards will be developed and added to University of Utah Design Standards</p> <p>Construction sites will be inspected regularly for implementation and success of the BMPs</p>	<p align="center">2005</p>	<p align="center">2006</p>
<p><u>4.2</u> Construction sites 1 acre or larger, or with the potential to pollute storm water, will be required to have storm water pollution prevention plans in place prior to commencement of earth-disturbing activities.</p>	<p>All sites 1 acre or larger will have DWQ-issued permits and SWPP Plans in place; smaller sites will be evaluated by the Project Manager to determine if a SWPPP and state permit will be required. EHS will provide technical support to Project Managers.</p> <p>All sites will:</p> <ul style="list-style-type: none"> <li>o Be visited at least once by the Project Manager</li> <li>o Have to abide by erosion and sediment control guidelines</li> </ul>	<p align="center">2005</p>	<p align="center">2006</p>

**TABLE 4.2**  
**Construction Site Storm Water Run-off Control: Rationale**

UPDES Permit Language	University of Utah Program Description
<p><i>Ordinance or regulatory mechanism that will be used to require erosion and sediment controls at construction sites and why that mechanism was chosen. If the mechanism is not already developed, describe the plan and schedule to do so. If already developed, include a copy with this SWMP.</i></p>	<p>University construction sites with the potential to discharge pollutants in storm water runoff are required to obtain a UPDES construction discharge permit from the Utah Division of Water Quality. Additionally, University construction design standards require erosion and sediment controls.</p> <p>Contract language will be added to require construction contractors to obtain a UPDES permit</p>
<p><i>The plan to ensure compliance with the erosion and sediment control regulatory mechanism, including sanctions and enforcement mechanisms which will be used to ensure compliance. Describe the procedures for when various sanctions will be used. Possible sanctions include non-monetary penalties (such as stop-work orders), fines, bonding requirements, and/or permit denials for non-compliance.</i></p>	<p>Construction contracts will include penalties (i.e. liquidated damages and stop work orders) associated with non-compliance with erosion and sediment control requirements.</p>
<p><i>The requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites that may cause adverse impacts to water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.</i></p>	<p>As of May 2005, no specific measures are listed in the Campus Design and Construction general specifications. Section 4.3.3 on Erosion Control states:</p> <ol style="list-style-type: none"> <li>1. Avoid disturbing areas of high erosion susceptibility, sensitive vegetation areas, and steep slopes.</li> <li>2. Provide special erosion control measures on slopes greater than the angle of repose necessary for natural erosion control. Coordinate erosion control measures with soils engineer.</li> </ol> <p>University CDC specifications call for daily, weekly, and final cleanup to remove garbage, rubbish, and unused materials.</p> <p>Design specifications will be updated to include more specific guidelines on sediment and erosion control.</p>
<p><i>Procedures for site plan review, including the review of pre-construction site plans, which incorporate consideration of potential water quality</i></p>	<p>Construction activity at the U of U may involve contractor or in-house</p>

<p><i>impacts. A description of procedures and rationale for how site plan reviews will be prioritized if resources do not allow for all plans to be reviewed. An estimate of the number and percentage of sites which will have pre-construction site plans reviewed.</i></p>	<p>construction activities performed by Facilities Management.</p> <p>All site plans for contracted construction activities are reviewed by Facilities Management and there are design standards related to mitigating water quality impacts.</p> <p>Maintenance activities performed on a work order or emergency basis do not typically have a formal design or specification prepared. For routine operations, the person overseeing the maintenance activity is responsible for ensuring appropriate sediment and erosion control measures are implemented during field work. In emergency situations human life and the safety and operations of the facilities and infrastructure are of overall importance. In those cases work will be performed to minimize any immediate danger and stabilize the situation, and sediment and erosion control actions will follow. This may require the use of an outside contractor to clean the storm water drainage system following the emergency to prevent or minimize sediment transport to the system's receiving waters.</p>
<p><i>The procedures for receipt and consideration of information submitted by the public (to be coordinated with the requirements for the public education program).</i></p>	<p>The University does not anticipate any comments on specific construction project plans from the public, as project plans are not subject to public review.</p> <p>Project Managers will respond to complaints received from the campus community during the course of a construction project.</p>
<p><i>Procedures for site inspection and enforcement of control measures, including how sites will be prioritized for inspection.</i></p>	<p>Construction sites over 1 acre: Constructors will inspect at least every 14 days in accordance with their state-issued storm water discharge permit.</p> <p>Construction sites less than 1 acre: Constructors will inspect at least every 14 days, in accordance with their state-issued storm water discharge permit or using their University-required storm water pollution prevention plans as a guide. Most construction sites at the University will require a state-issued discharge permit because of their potential to discharge pollutants in storm water runoff.</p> <p>In the early stages of the program (1<sup>st</sup> year of implementation), EHS will provide oversight in conjunction with Project Managers. It is anticipated that by the 2<sup>nd</sup> year of implementation, Project Managers will be trained on inspecting construction sites and each project manager will be responsible for oversight inspections of their project sites. EHS will</p>

	provide support as needed.
<i>The person responsible for overall management and implementation of the storm water construction site program and the person(s) responsible for each of the BMPs identified for this program.</i>	The Associate VP for Facilities Management will be responsible for overall management and implementation of the storm water construction site program with technical assistance from the EHS Department.
<i>A description of how the success of this minimum measure will be evaluated, including how the measurable goals for each of the BMPs was selected.</i>	<ul style="list-style-type: none"> <li>- Number of SWPPPs submitted versus the number of active construction sites</li> <li>- Number of sites inspected vs. number of active construction sites</li> <li>- Number of deficiencies identified and corrected</li> </ul>

## POST CONSTRUCTION STORM WATER MANAGEMENT

**TABLE 5.1**

**Post Construction Storm Water Management: BMP's and Measurable Goals**

Best Management Practices	Measurable Goal(s)	Start Date	Target Date for Achievement/ Implementation
<u>5.1</u> Long Range Development Plan (LRDP) that includes: - open space preservation - sensitive area protection (Red Butte Creek, Wasatch foothills, Bonneville Shoreline) - protection of trees and existing vegetation - parking demand management	Evaluate current LRDP with respect to storm water pollution prevention	2005	2005
	Include additional considerations as recommended by the storm water steering committee, public input to the storm water plan, etc.	2005	2008
<u>5.2</u> Campus Design Standards will limit runoff rate to .20 cubic feet per second (cfs).	2006 – Campus Design Standards will be modified to limit runoff rate to .20 cfs 2006 – architects and contractors will be educated on new requirements for U of U projects 2007/2008 – track number of projects that meet design criteria; by end of 2008 100% of all U of U projects will meet criteria	2005	2008
<u>5.3</u> Develop a program for maintenance of storm water control structures	Inventory structural runoff controls	2005	2005
	Establish and implement a preventive maintenance schedule for all structures	2005	2006
	Inspect permanent storm water control structures annually	2005	2006

**TABLE 5.2**

**Post Construction Storm Water Management: Rationale**

This table documents the University’s decision process for the development of a post-construction storm water management program. The table addresses the overall post-construction storm water management program and the individual BMPs, measurable goals, and responsible persons for the program.

UPDES Permit Language	University of Utah Program Description
<p><i>The program to address storm water runoff from new development and redevelopment projects, including any specific priority areas for the program.</i></p> <p><i>How the program will be tailored for the local community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions.</i></p>	<p>The University storm sewer system is currently close to its maximum capacity on campus and to the maximum capacity that the Salt Lake City storm sewer infrastructure can handle without significant upgrades. The ability to expand the campus facilities in a cost-effective manner is impacted by the available capacity of the utility infrastructure. It is important that impervious areas are incorporated in such a way that storm water runoff can infiltrate into the ground at rates similar to natural conditions (i.e., post-construction runoff coefficient nearly equal to pre-construction runoff coefficient). This can include a combination of systems, such as vegetated depressions and open spaces, together with storm sewer piping and detention systems. It is important that the University provide additional mitigation for discharges into area creeks such as Red Butte Creek due to increased volume and/or discharge rates as a result of future facility build-out.</p>
<p><i>Non-structural BMPs , such as:</i></p> <ul style="list-style-type: none"> <li>- <i>policies and ordinances to direct growth to identified areas</i></li> <li>- <i>protection of sensitive areas such as wetlands or riparian areas</i></li> <li>- <i>open space</i></li> <li>- <i>buffers for sensitive water bodies</i></li> <li>- <i>minimization of impervious surfaces and disturbance of soils and vegetation</i></li> </ul>	<p>The LRDP identifies areas for future build-out; the Campus Utilities Master Plan is a part of the process to identify the impacts of future build-out. A mathematical model was used to evaluate the potential impact of future growth on the storm and sanitary sewer systems, as well as water supply.</p> <p>The University is a state-designated arboretum, and the Campus Design Standards require replacement of two trees for every one tree removed for construction. The University Legacy Tree Program</p>

	<p>encourages community members to purchase trees in honor of loved ones, etc.</p> <p>The University granted a conservation easement, the Heritage Preserve, which limits facility growth on the east side of campus to the existing campus footprint (e.g., no farther up on the east bench than the existing Huntsman Cancer Hospital and Institute).</p> <p>Current Campus Design Standards do not limit impervious surfaces, rather projects that increase impervious surfaces must include storm water control systems that will not increase flow into the University's storm water system. However, most new buildings or building expansions include minimal, if any, additional surface parking.</p>
<p><i>Structural BMPs, including, as appropriate:</i></p> <ul style="list-style-type: none"> <li>- <i>Storage practices such as wet ponds and extended-detention outlet structures</i></li> <li>- <i>Filtration practices such as grassed swales, bioretention cells, sand filters, and filter strips</i></li> <li>- <i>Infiltration practices such as infiltration basins and trenches</i></li> </ul>	<p>Design Standards require no net increase of flow. New Campus Design Standards may provide a menu of specific structural BMPs to be used.</p>
<p><i>Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure.</i></p>	<p>Not applicable, as all building is planned within the land owned by the University</p>
<p><i>Education programs for developers and the public about project designs that minimize water quality impacts</i></p>	<p>Educational opportunities will be provided for campus planners and designers to learn about project designs that minimize water quality impacts as part of the Public Education and Outreach minimum control measure</p>
<p><i>Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, source control measures (good housekeeping), preventive maintenance and spill prevention</i></p>	<p>The University's SPCC Plan will be completed by the Summer of 2005.</p> <p>Campus Design Standards are being revised to include more post-construction runoff considerations. Revisions are expected to be complete by the end of 2006.</p>
<p><i>Ordinances or other regulatory mechanisms that will be used to address post-construction runoff from new developments and redevelopments, and why the particular mechanisms were chosen. If</i></p>	<p>Campus Design Standards are being revised to include more post-construction runoff considerations. Revisions are expected to be complete by the end of 2006.</p>

<p><i>the mechanism is yet to be developed, a description of the plan and a schedule of implementation. If the ordinance or regulatory mechanism is already developed, include a copy of the relevant sections.</i></p>	
<p><i>The person responsible for overall management and implementation of the post-construction storm water management program and the person(s) responsible for each of the BMPs identified for this program.</i></p>	<p>Associate VP for Facilities Management, with particular tasks delegated to various department heads and staff members.</p>
<p><i>A description of how the success of this minimum measure will be evaluated, including how the measurable goals for each of the BMPs was selected.</i></p>	<p>Post construction inspections will verify that design measures were installed and are working as designed</p>

**POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR UNIVERSITY OPERATIONS**

**TABLE 6.1**

**Pollution Prevention/Good Housekeeping: BMP's and Measurable Goals**

Best Management Practices	Measurable Goal(s)	Start Date	Target Date for Achievement/ Implementation
<u>6.1</u> Employee training program for University facilities employees (e.g., grounds maintenance crews, Motor Pool, Plumbing Shop, HVAC Shop, Transportation), food service vendors, Hospital F&E and Environmental Services, and HCI Facilities	Training program will be developed, including identifying specific departments and individuals to be trained, as well as course materials <ul style="list-style-type: none"> <li>•</li> </ul>	2005	2006
	Number of employees trained <ul style="list-style-type: none"> <li>• 60% (of all employees identified) by end of 2006</li> <li>• 100% by end of 2007</li> </ul>	2005	2007
<u>6.2</u> Develop Spill Prevention, Control and Countermeasure Plan	Oil storage locations inventoried	2005	2005
	Plan completed and stamped by Professional Engineer	2005	2005
	Number of oil handling employees trained	2006	2006
<u>6.3</u> Storm Drain System Cleaning	Leaves will be removed from University-owned inlets annually <ul style="list-style-type: none"> <li>• Half of the inlets will cleaned in the Fall</li> <li>• Other 50% in Spring</li> </ul>	2005	2007
<u>6.4</u> Used Oil Recycling	Quantity (gallons) of oil shipped for recycling	2005	2005

**TABLE 6.2**  
**Pollution Prevention/Good Housekeeping for University Operations: Rationale**

UPDES Permit Language	University of Utah Program Description
<p><i>Describe the operation and maintenance program to prevent or reduce pollutant runoff from the municipal operation.</i></p>	<p>Street sweeping – the University owns one street sweeper; University streets and parking lots are swept twice per year. Streets affected by construction projects are swept by the construction contractor responsible for the site.</p> <p>Fleet maintenance – passenger and police vehicles are serviced in the Motor Pool Shop (Building 309). University vehicles are washed in a wash bay inside the Shop; this wash bay drains to the sanitary sewer. Heavy equipment is serviced in Building 306.</p> <p>Refuse and litter pickup - 70 people/five (5) full time equivalents are employed picking up litter throughout campus.</p> <p>Hazardous waste pickup and offsite disposal – waste generators throughout campus have access to an online waste disposal pickup request system managed by the EHS Department. The EHS Department picks up hazardous waste daily. Waste is taken to Building 590 where it is stored awaiting offsite disposal. Building 590 complies with the RCRA regulations for (generator 90-day) hazardous waste container storage buildings.</p> <p>Used oil recycling – Used oil generated on campus is sent offsite for recycling in compliance with the applicable RCRA regulations.</p> <p>Spill prevention and response planning – The University is working on completing its SPCC plan in 2005. The Plan includes a comprehensive inventory of bulk and container storage locations, identification of spill response equipment, security measures, secondary containment, training, and oil storage locations inspections programs.</p>

*The University facilities that are subject to the UPDES Multi-Sector General Permit for storm water discharges associated with industrial activity are listed:*

Activities in and around the following buildings have similar polluting potential to facilities subject to the UPDES multi-sector general permit, however, none of these activities meet the exact definitions found in the UPDES multi-sector general permit:

- Plumbing Shop (Building 350)
- Paint Shop (Building 350)
- Printing Services (Building 350)
- Electric Shop (Building 350)
- Electronics Shop (Building 350)
- Carpenter/Roofing Shop (Building 350)
- HVAC Shop (Building 305)
- Transportation (Building 306)
- Mower Shop (Building 306)
- Motor Pool Building (Bldg 309)

*Any government employee training program the permittee will use 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.*

*Include a description of:*

- *existing materials to be used*
- *how this training program will be coordinated with the outreach programs developed in compliance with the public information minimum measure and the illicit discharge minimum measure.*

All oil handling personnel will be trained as described in the University of Utah SPCC Plan. Existing training (e.g., Grounds Department) will be updated to include storm water pollution prevention. The basic message of all training segments will be: the ultimate destination of storm water runoff from the University, how pollutants impact the ecosystems they enter, what the University as a whole can do to reduce pollutants, and what each individual can do to reduce pollutants.

Sediment and erosion control measures and their implementation at construction sites will be a component for Facilities Management staff that oversee outdoor projects.

*The program description must specifically address:*

- *Maintenance activities and schedules, and long term inspection schedules and procedures for controls to reduce floatables and other pollutants*
- *Controls for reducing or eliminating the discharge of pollutants from streets, parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow removal*

Leaves are removed from catch basins in the Fall and Spring. Storm drain lines are cleaned when plugged. No preventive maintenance program currently in place for the storm drain lines.

Salt storage – current practice - salt is stored outside near Buildings 213 & 215. A small detention basin was created to store runoff from the salt pile.

The University is in the process of auditing many of the areas listed above; solutions to identified problems will be proposed and budgets

<p><i>stockpile/storage areas</i></p> <ul style="list-style-type: none"> <li>- <i>Procedures for the proper removal of waste removed from the MS4 and the municipal operations, including dredge spoil, accumulated sediments, floatables, and other debris</i></li> <li>- <i>Procedures to ensure that new flood management projects are assessed for impacts to water quality and that existing projects are assessed for incorporation of additional water quality protection devices or practices</i></li> </ul>	<p>and timelines developed for implementation.</p> <p>Removed sediment, leaves, and litter are sent offsite for disposal as municipal solid waste.</p> <p>Flood management projects are part of the Facilities Planning process, and so will be managed as described in the section on Post Construction Storm Water Management.</p>
<p><i>The person responsible for overall management and implementation of the pollution prevention/good housekeeping program and the person(s) responsible for each of the BMPs identified for this program.</i></p>	<p>The Associate VP for Facilities Management is responsible for the overall management and implementation of the pollution prevention/good housekeeping program, with technical assistance from the EHS Department.</p>
<p><i>A description of how the success of this minimum measure will be evaluated, including how the measurable goals for each of the BMPs was selected.</i></p>	<p>This minimum measure will be evaluated by:</p> <ol style="list-style-type: none"> <li>1. Tracking the number of employees trained on storm water pollution prevention and on oil storage, spill prevention and response.</li> <li>2. Monitoring the number of storm drain inlets cleaned versus the total number, and</li> <li>3. The quantity of used oil shipped for recycling</li> </ol>

