UPDES STORM WATER INSPECTION EVALUATION FORM FOR SWPPP COMPLIANCE

BACKGROUND INFORMATION	
Site Name:	UPDES Permit #:
Site Address:	
Local Jurisdiction or County:	
Permit Effective Date:	Permit Expiration Date:
Total Project Area:	Total Disturbed Area:

Project Type: (circle) *Subdivision* *Commercial* *Industrial* *Linear (Road/Pipe/Power)* *Land Disturbance*

OPERATOR CONTACT INFORMATION

	NAMES	PHONE NUMBERS	E-MAIL
Operator:			
Onsite Facility Contact:			
Important Contacts:			
Important Contacts:			

SWPPP PRE-SITE REVIEW INFORMATION	YES	NO
1. Has a pre-construction review of the SWPPP been conducted by the appropriate municipal agency?		
2. Are contact names and telephone numbers listed in the SWPPP?		
3. Does the SWPPP include a site map showing storm drains, slopes/surface drainage patterns, SW discharge points, construction boundaries, limits of disturbance, surface waters (name of receiving water), structural controls, and does it define/explain non-structural controls?		
4. Does the SWPPP have an estimate of the area to be disturbed, a sequence of construction activities, the SW runoff coefficient for after completion, a description of the soil types, controls for discharges from (asphalt/concrete) batch plants if any, show wetland areas, and have a desription of the nature of the construction activity?		
5. Does the SWPPP and site map show erosion and sediment controls placement & details (e.g. erosion blankets, mulch, slope drains, check dams, sediment basins, grass-lined channels, fiber rolls, sediment traps, silt fence, inlet protection, curb cut-back, dust control, etc?)		
6. Does the SWPPP and site map show and describe good housekepping controls (e.g. track out pad, street sweeping, material storage, construction waste containment and removal, sanitary waste, concrete washout pits, etc)		
7. Are post-construction elements included in the SWPPP? (i.e. grass swales, detention basins, vegetated filter strips, infiltration, depression storage, landscaping/xeriscaping, discontinuous concrete or hard surface SW conveyance, etc.)		
8. Does the SWPPP address endangered species and historic preservation?		
9. Is the SWPPP signed by a responsible corporate officer with the certification statement (see permit part 5.16.c.)?		
10. Are the NOI and a copy of the State permit in the SWPPP?		

NOTICE OF TERMINATION (NOT) INSPECTION

Site Name:	Date of Evaluation:
Site Address:	
Inspected By:	Title\Organization:

	YES	NO	COMMENTS:
1. Has the site been properly stabilized according to permit requirements?			
2. Have all temporary BMPs been removed?			
3. Have post-construction (permanent storm water system) elements been constructed and inspected in accordance with approved project drawings?			
4. Is the site acceptably clean?			

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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.

Inspector:

(Print Name) (Title) (Signature) (Date)

Operator:

(Print Name) (Title) (Signature) (Date)

modified 8/12/10

(Attach additional sheets of narrative, pictures and checklists, as necessary)

ADDITIONAL COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Site Name:	Date of Evaluation: Page of
Site Address:	

EPA Form 3560-3 SEV Codes and Descriptions

DOR11		Discharge without a permit	BR19B		Failure to properly operate and maintain BMP's
DOR18		Failure to apply for a Notice of Termination	BR19A		Failure to properly install/implement BMP's
BOR12		Failure to conduct inspections	EOR16		Failure to submit required report (non-DMR)
BOC17		Failure to develop any or adequate SWPPP/SWMP	AOR22		Narrative effluent violation
BOC18		Failure to implement SWPPP/SWMP	DOR12		Failure to submit required permit information
BOR41		Failure to maintain records	AOR12		Numeric effluent violation
COR11		Failure to monitor	BOR42		Violation of a milestone in an order

SWPPP COMPLIANCE INSPECTION FORM

Project Name:	Address:	Date:
Owner:	Contractor (Gen/Sub):	Start time:
Site Contact:	Phone:	Stop time:

UPDES Permit #: Expiration:	Weather: Sunny Cloudy Raining Snowing Other:	
Date of last rain event:	Duration:	Approx. Rainfall (in):
Inspected By (Print):	Local Jurisdiction or County:	
Reason for Inspection: Scheduled Complaint/Tip Random	Receiving Waters:	
Inspection Code (circle): SW sampling / SW non-sampling	Inspector Code (circle): (S) State / (L) Local	Type Code (circle): 1 - Municipal 2 - Industrial 3 - State

SWPPP, EROSION, SEDIMENT AND HOUSEKEEPING BMP's INFORMATION	YES	NO	N/A
1. Is the SWPPP on site and accessible, or is the SWPPP location posted in an obvious place and reasonably accessible (in a short time)?			
2. Are erosion control, sediment control, and good housekeeping BMP's installed on the site as shown in the SWPPP?			
3. Has the SWPPP been updated to reflect the current site conditions (modifications dated & initialed on site map, new BMPs on site map, discontinued BMPs crossed off site map, new BMP details & spec's in SWPPP, SWPPP amendment Log, etc.)?			
4. Are on-site inspections being performed and recorded by a qualified person on a weekly or biweekly basis, reporting items required by permit? (Inspector name &qualifications, weather, problems/repairs, corrective action, new BMPs, removed BMPs, discharges, etc.)			
5. Have all corrective action items from previous inspections been addressed and documented within the time frame allotted by the inspector?			
6. Are SW flows entering and leaving the construction site controlled, managed, or diverted around the site? (e.g. perimeter controls, berms, silt fence, upgradient boundary diversion, down gradient boundary sediment control, etc.)			
7. Is there evidence of sediment discharge such as mud flows or soil deposits from the construction site in downstream locations?			
8. Is there evidence of vehicles tracking soil off the construction site?			
9. Is there soil, construction material, landscaping items, or other debris piled on impervious surfaces (roads, drives) that could be washed with SW to a storm drain or water body?			
10. Is there a need to repair, maintain, or improve erosion control BMPs (temporary stabilization, erosion blankets, mulch, vegetated strips, rip rap, surface roughening, pipe slope drain, dust control, etc)?			
11. Is there a need to repair, maintain, or improve sediment control BMPs (silt fence, check dams, fiber rolls, sediment trap/basin, inlet protection, waddles, straw bails, curb cut-back, etc?			
12. Is there a need to repair, maintain, or improve good housekeeping controls (clean track out pad, sweeping, construction materials management, litter/trash control, port-o-potties staked down, fueling areas, concrete wash out area, proper curb ramps, spill prevention, etc)?			
13. Are there disturbed areas that have not had construction activities for 14 to 21 days without stabilization? (except snow or frozen ground)?			
14. Are there places where BMPs are needed and should be installed or not needed and should be removed?			

COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Identify the problem and its location. If appropriate, describe (in general terms) what needs to be completed. However, only if qualified (e.g., you are a designer) should you be mandating specific BMPs to install. Include the date when corrections are made.

Inspector, please list all applicable SEV codes:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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.

Inspector:

(Print Name) (Title) (Signature) (Date)

Operator:

modified 8/12/10 (Print Name) (Title) (Signature) (Date)

(Attach additional sheets of narrative, pictures and checklists, as necessary)

ADDITIONAL COMMENTS AND CORRECTIVE ACTIONS FOR SWPPP COMPLIANCE

Ins e

Site Name:	Date of Evaluation: Page of
Site Address:	

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BOC18		Failure to implement SWPPP/SWMP	DOR12		Failure to submit required permit information
BOR41		Failure to maintain records	AOR12		Numeric effluent violation
COR11		Failure to monitor	BOR42		Violation of a milestone in an order

WEEKLY VISUAL INSPECTION SOP

PREPARATION

- Identify "High Priority" facilities
- Map of location
- Become familiar with potential pollutants at the site

PROCESS

- Look for evidence of spills at the site
- If a spill is found assess the general area to identify its source
- Whenever possible take photographs of the suspected illicit discharge

CLEAN-UP

- Clean up spill immediately to prevent contact with precipitation or runoff
- Initiate spill response

DOCUMENTATION

- Fill out Weekly High Priority Inspection Log for facility and mark that the weekly inspection has been completed
- If a deficiency was found make note on the Weekly High Priority Inspection Log and fill out the Note Log for that particular facility

Weekly High Priority Inspection Log

City Name:

Facility Name	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found	Date:	Deficiencies found

Note: 1) Enter Y or N for deficiencies found. If "Y" type of deficiency and corrective action taken must be documented on the Inspection note log

High Priority Facilities Weekly Inspection Report Form

Facility Name	Inspection Date	Inspector Name	Deficiency Identified	Corrective Actions Taken

QUARTERLY COMPREHENSIVE INSPECTION SOP

PREPARATION

- Identify "High Priority" facilities
- Map of location
- Become familiar with potential pollutants at the site

PROCESS

- Look for evidence of spills at the site
- If a spill is found assess the general area to identify its source
- Whenever possible take photographs of the suspected illicit discharge
- Inspect all waste storage areas and dumpsters
    - Inspect for leaks
    - have repairs made immediately by responsible party
- Inspect vehicle maintenance and fueling areas
    - Look for pollutant generating areas and inspect
- Material handling areas
- Pollutant generating areas

CLEAN-UP

- Clean up spill immediately to prevent contact with precipitation or runoff
- Initiate spill response

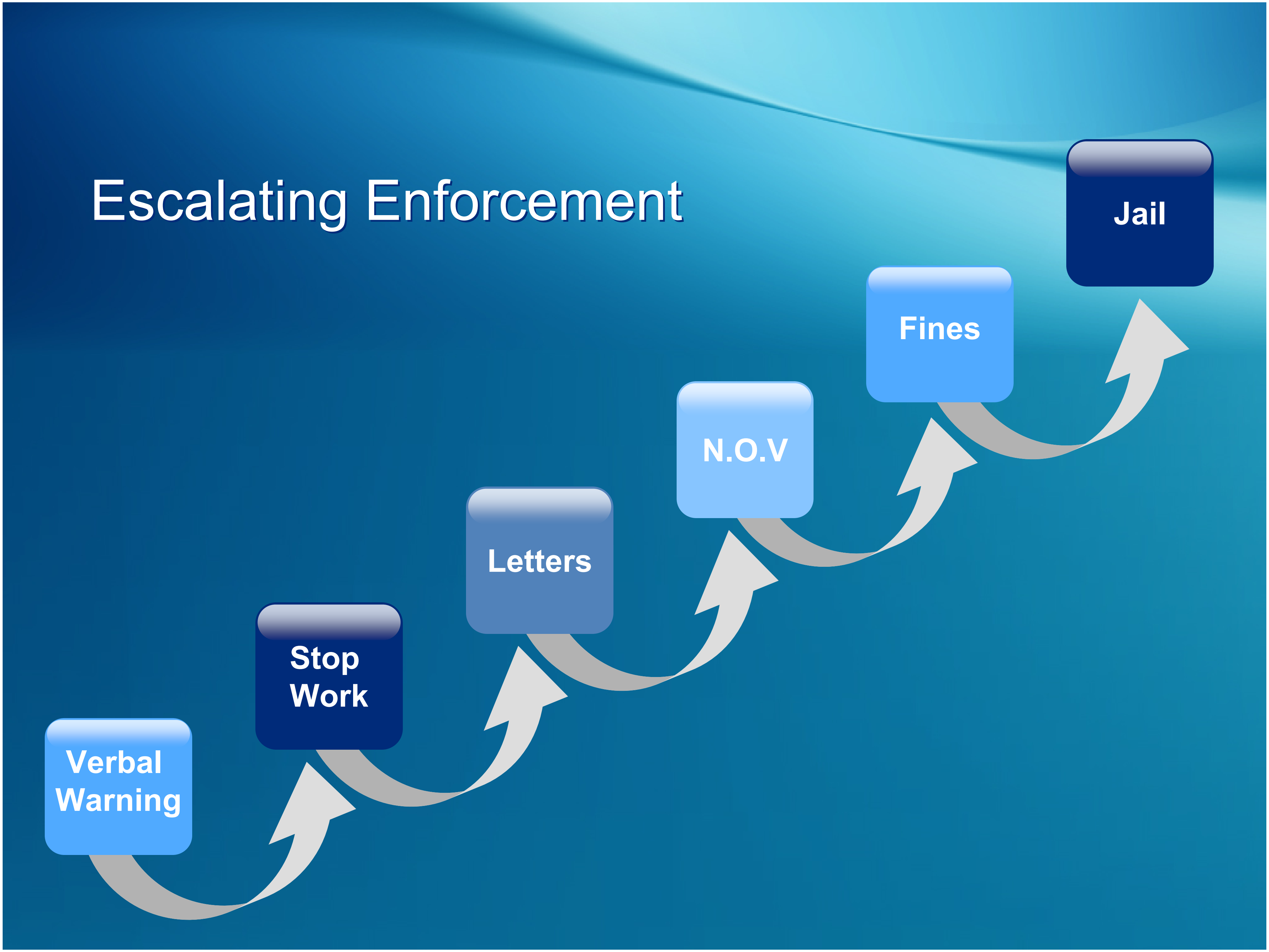
DOCUMENTATION

- Fill out a quarterly comprehensive inspection sheet for each facility
- Document the inspection was complete on the Quarterly Comprehensive Log sheet along with the date it was completed

Quarterly Comprehensive Inspection Log

City Name:

Facility Name	1st Quarter	Date complete	2nd Quarter	Date complete	3rd Quarter	Date complete	4th Quarter	Date complete


Escalating Enforcement
Verbal Warning
Stop Work
Letters
N.O.V
Fines
Jail

TRAINING SCHEDULE

Training Topic	Who	How Often	Paragraph
-Low impact development -Green infrastructure -Post construction practices -BMP's chose in the swmp	-MS4 Engineers -Development and plan review staff, -Land use planners -Others	Not specified	4.2.1.6
IDDE Program -Identification -Investigation -Termination -Cleanup -Reporting -How to identify a spill -Improper disposal	-All field staff -Office personnel	Annually	4.2.3.11
-Implementing a construction storm water program -Permitting -Plan review -Construction site inspections -Enforcement	Staff with following responsibilities: -Implementing the construction storm water program -Permitting -Plan review -Construction site inspections -Enforcement -Third party inspectors	Not specified	4.2.4.5
Fundamentals of long-term storm water management through the use of structure and non-structural BMPs.	All staff involve -In post-construction storm water management -Planning and review -Inspections and enforcement	Not specified	4.2.5.6
Preventing or reducing pollutant runoff from all Permittee owned or operated facilities	-All staff	Not specified	4.2.6
Use, storage, and disposal of chemicals	-Those responsible for handling chemicals	Not specified	4.2.6.4.1
-Importance of protecting water quality -Requirements of SWMP permit -Operation and maintenance requirements -inspection procedures, -Ways to perform their job activities to prevent or minimize impacts to water quality -SOP's for the various Permittee-owned facilities -Procedures for reporting water quality concerns; including potential illicit discharges -Changes in procedures	All employees who have primary construction, operation, or maintenance job functions that are likely to impact storm water quality	Not specified	4.2.6.9
Illicit Discharge/Waste Disposal - Equipment inspection - Storage of industrial materials - Disposal of waste - Management of dumpsters - Minimizing Salt/De-icing - On-site infiltration - Maintenance of parking lots	Employees of owned or operated facilities	Not specified	4.2.1.5

Training Log

Date of Training	Description of Training	Signature

Dry Weather Screening Checklist/SOP

Pre-inspection Items

- ☐ Map Outfalls
- ☐ Develop outfall inspection priority schedule
- ☐ Proper equipment
    - o Clear sampling jar
    - o Map showing location
    - o Visual monitoring report form
    - o Camera
    - o GPS unit?

Inspection

- ☐ Check for dry weather discharge
- ☐ If discharge is present – pull sample
- ☐ Follow procedures on visual monitoring form
- ☐ Photo document findings
- ☐ If there is cause for concern move to inspection follow up procedures

Inspection Follow-Up Procedures

- ☐ File any Photos
- ☐ Call health department and report findings 801-
- ☐ Trace discharge upstream by checking manholes – 1,000 foot intervals
- ☐ Find last manhole with any evidence of illicit discharge
- ☐ Look at surface improvements in the area to determine possible suspects
- ☐ If determination cannot be made from the surface investigations, then TV or smoke test line for unknown connections.

DRY WEATHER SCREENING AND
VISUAL STORM WATER DISCHARGE EXAMINATION REPORT

Date of Examination: _________________________ Permit No. UTR ___________________________

Outfall location or ID number: ____

Nature of Discharge (i.e., runoff, land drain, irrigation or snowmelt) ______________________________

Type of Monitoring:

☐ Dry Weather Screening Date of last Rainfall Event:_________________	Wet Weather Screening (Quarterly Min.) ☐ Rainfall Event Date of Rainfall Event:____________________ Time of Event:__________________________ Precipitation:___________________________ ☐ Unable to collect sample due to adverse conditions or inadequate runoff.

Visual Quality of Storm Water Discharge: (circle response)

At Time of Sampling:

Color: clear brown green rust other: ______

Odor: Yes / No

Clarity: ☐ ☐ ☐ ☐ ☐

Floating Solids: Yes / No

Foam: Yes / No

After One Hour of Settling:

Settled Solids: Yes / No

Suspended Solids: Yes / No

Oil Sheen: Yes / No

Other obvious indicators of storm water pollution: ____

____

Probable sources of any observed storm water contamination: _________________________________

____

Name of Examiner_____________________________________ Title_______________________________

Signature____Date______________________________

Revised: 10-15-2010

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 Municipal 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 following form is required and must be signed and certified in accordance with requirements in the MS4's permit under Part 1. of this form.

1. MS4 Information

Weber County
Name of MS4

Curtis Christensen
Name of Contact Person

cchriste@co.weber.ut.us
Email Address

801-399-8374
Telephone (including area code)

2380 Washington Blvd. Ste. 240
Mailing Address

Ogden	Utah	84401
City	State	ZIP code

What is the current population of your MS4? 15,280 from WFRC data 2006

What is the reporting period for this annual report? From Oct. 07 to Oct. 08

Certification Statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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 **Date**

Name (printed)

Title

2. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on your state 303(d) list? ☐ Yes ☒ No

A list of draft, approved and pending (Total Maximum Daily Load) TMDLs as well as in-progress TMDL water quality studies can be found at http://www.waterquality.utah.gov/TMDL/index.htm.

B. If yes, identify each impaired water, the impairment(s), whether a TMDL has been approved by EPA for each, and whether the TMDL identifies your MS4 as a source of the impairment.

Impaired Water	Impairment	Approved TMDL	MS4 Identified as source of impairment
______	______	☐ Yes ☐ No	☐ Yes ☐ No
______	______	☐ Yes ☐ No	☐ Yes ☐ No
______	______	☐ Yes ☐ No	☐ Yes ☐ No

C. What specific sources of these pollutants of concern are targeted?

______

D. Do you have discharges to any high-quality waters (e.g., Category 1 or Category 2 as defined in Utah Administrative Code R317-2-3)? ☒ Yes ☐ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☒ Yes ☐ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☒ Yes ☐ No

B. If yes, what are the specific causes, sources and/or pollutants addressed by your public education program?

Litter, sediments,

C. Note specific successful outcome(s) (NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

Pineview cleanup day removed 3 loads of litter from around pineview reservoir

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☐ Yes ☒ No

4. Construction

A. Do you have an ordinance or adopted policies (*If the ordinance was adopted or updated during this reporting period, then a copy of the ordinance should be attached to this report*) stipulating:

Erosion and sediment control requirements? ☒ Yes ☐ No

Other construction waste control requirements? ☒ Yes ☐ No

Requirement to submit construction plans for review? ☒ Yes ☐ No

MS4 enforcement authority? ☒ Yes ☐ No

B. What is the threshold for construction storm water plan review? (e.g., all projects, projects disturbing greater than one acre, etc. projects greater than 1 ac.

C. How many active construction sites disturbing at least one acre were there in your jurisdiction this reporting period?

15 How many of these sites did you inspect this reporting period? 15 not all with inspection reports

D. How many active construction sites disturbing less than one acre were there in your jurisdiction this reporting period?

NA How many of these sites did you inspect this reporting period? NA

E. How many of these active sites did you inspect this reporting period? see C above

F. On average, how many times each, or with what frequency, were these sites inspected (e.g., weekly, monthly, etc.)? Bi Monthly

G. Do you prioritize certain construction sites for more frequent inspections? ☒Yes ☐ No

If Yes, based on what criteria? Active construction taking place

H. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☒ Yes	Notice of violation	#2	No Authority ☐
☐ Yes	Administrative fines	#_____	No Authority ☐
☐ Yes	Stop Work Orders	#_____	No Authority ☐
☐ Yes	Civil penalties	#_____	No Authority ☐
☐ Yes	Criminal actions	#_____	No Authority ☐
☐ Yes	Administrative orders	#_____	No Authority ☐
☐ Yes	Other _____	#_____	

I. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☐ Yes ☒ No

J. What are the 3 most common types of violations documented during this reporting period?

SWPPP not on site, silt fence improperly installed, inlet boxes not cleaned during construction

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

B. Have you completed a map of all storm drain pipes of storm sewer system? ☒Yes ☐ No

C. How many outfalls have you identified in your system? 26

D. How many of these outfalls have been screened for dry weather discharges? all

E. How many of these have been screened more than once? all

F. What is your frequency for screening outfalls for illicit discharges? twice yearly

G. Do you have an ordinance that effectively prohibits illicit discharges? *(If the ordinance was adopted or updated during this reporting period, then a copy of the ordinance should be attached to this report*). ☒ Yes ☐ No

H. During this reporting period, how many illicit discharges/illegal connections have you discovered (or been reported to you)? 0

I. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? NA

6. Storm Water Management for Municipal Operations

A. Have storm water pollution prevention plans (or an equivalent plan) been developed for:

All parks, ball fields and other recreational facilities ☐ Yes ☒ No

All municipal turf grass/landscape management activities ☐ Yes ☒ No

All municipal vehicle fueling, operation and maintenance activities ☐ Yes ☒ No

All municipal maintenance yards ☐ Yes ☒ No

All municipal waste handling and disposal areas ☒ Yes ☐ No

B. Are storm water inspections conducted at these facilities? ☐ Yes ☒ No

If Yes, at what frequency are inspections conducted? ______

C. Have standard operating procedures or BMPs been developed for all MS4 field activities? (e.g., road repairs, catch basin cleaning, landscape management, etc.) ☐ Yes ☒ No

D. Do you have a prioritization system for storm sewer system and permanent BMP inspections? ☐ Yes ☒ No

E. On average, how frequently are catch basins and other inline treatment systems inspected? 2/yr

F. On average, how frequently are catch basins and other inline treatment systems cleaned out/maintained? 2/yr

G. Do municipal employees in all relevant positions and departments receive comprehensive training on storm water management? ☒ Yes ☐ No

H. If yes, do you also provide regular updates and refreshers? ☒ Yes ☐ No

If so, how frequently and/or under what circumstances? yearly as part of conferences

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7. Post-Construction Storm Water Management in New Development and Redevelopment

A. Do you have an ordinance or other mechanism to require:

Site plan reviews of all new and re-development projects? ☒ Yes ☐ No

Maintenance of storm water management controls? ☐ Yes ☒ No

Retrofitting? ☐ Yes ☒ No

B What is the threshold for new/redevelopment storm water plan review? (e.g., all projects, projects disturbing greater than one acre, etc.)

______

C. Do you have either design standards or performance standards for new and re-development (at least one acre and larger) that are required to be met? ☒ Yes ☐ No

D. Have you adopted design standards/performance measures for new/redevelopment projects? ☒ Yes ☐ No

E. Do these design standards/performance measures require that pre-development hydrology be met for:

Flow volumes ☒ Yes ☐ No

Peak discharge rates ☒ Yes ☐ No

Discharge frequency ☒ Yes ☐ No

Flow duration ☐ Yes ☒ No

F. Please provide the URL/reference where all post-construction stormwater management standards can be found.

http://www.co.weber.ut.us/wiki/index.php/Municipal_BMPs

G. How many development and redevelopment project plans were reviewed this year? 12

H. How many were approved? 3

I. How many permanent storm water management practices/facilities were inspected? 2

J. How many were found to have inadequate maintenance? 2

K. Of those, how many were notified and remedied within 90 days? (If window is different than 90 days, please specify)

modifications are being made or were made as weather permitted

L. How many enforcement actions were taken? 0

M. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☐ Yes ☒ No

N. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☐ Yes ☒ No

8. Program Resources

A. What was your annual expenditure to implement the requirements of your MS4 UPDES permit and SWMP this past reporting period? $20000 estimate

B. What is next year's budget for implementing the requirements of your MS4 UPDES permit and SWMP?
Not a line item

C. Do you have an independent financing mechanism for your storm water program? ☐ Yes ☒ No

D. If so, what is it/are they (e.g., storm water fees), and what is the annual revenue derived from this mechanism?

Source: _____ Amount $_____

Source: _____ Amount $_____

E. How many FTEs does your municipality devote to the storm water program (specifically for implementing the storm water program vs. municipal employees with other primary responsibilities that dovetail with storm water issues)?
1.5 estimated

F. Do you share program implementation responsibilities with any other entities? ☒ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
Weber Co.	Training and public outreach	We provide materials and some outreach programs

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your storm water management program, how long have you been tracking them, and at what frequency? Not that these are not measurable goals for individual BMPs or tasks, but large-scale or long-term metrics for the overall program, such as in-stream macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc? (*Please attach additional information if necessary)*

Indicator	**Began Tracking (year)**	**Frequency**	**Number of Locations**
Example: E. coli	2003	Weekly April–September	20
other agencies such as Weber Basin monitor quality and quantity			

B. What environmental quality trends have you documented over the duration of your storm water program? (If you have reports or summaries, you can either attach them electronically, or provide the URL to where they may be found on the Web.) Not available

Utah Pollutant Discharge Elimination System Storm Water Program
Small MS4 Report Form

The purpose of this report is to contribute information to an evaluation of the UPDES small municipal separate storm sewer system (MS4) permit program. Consistent with 40 CFR §122.37 the Utah Department of Environmental Quality is assessing the status of the storm water program. A "no" answer to a question does not necessarily mean noncompliance with your permit or with the federal regulations. In order to establish the range of variability in the program it is necessary to ask questions along a fairly broad performance continuum.

1. MS4 Information

Name of MS4: Weber County Corporation

Name of Contact Person (First): Curtis (Last): Christensen (Title): ______

Telephone (including area code): (801) 399-8374 Email: cchriste@co.weber.ut.us

Mailing Address: 2380 Washington Blvd., Suite 240

City: Ogden State: UT ZIP code: 84401

What size population does your MS4 serve? 15,280 (2006) UPDES number ______

What is the reporting period for this report? (mm/dd/yyyy) From 10/01/2008 to 10/01/2009

2. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on a state 303(d) list? ☐ Yes ☑ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4. Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL	TMDL assigns WLA to MS4
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

C. What specific sources contributing to the impairment(s) are you targeting in your storm water program?

______

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☑ Yes ☐ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☑ Yes ☐ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☑ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

Litter, sediments

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

Pineview cleanup day removed 1 dump truck load of litter from around Pineview reservoir

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your storm water program? ☐ Yes ☑ No

E. Do you belong to a storm water coalition or other advisory committee? If yes, describe: ☑ Yes ☐ No

Weber County Stormwater Coalition, USWAC

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements? ☑ Yes ☐ No

Other construction waste control requirements? ☑ Yes ☐ No

Requirement to submit construction plans for review? ☑ Yes ☐ No

MS4 enforcement authority? ☑ Yes ☐ No

B. Do you have written procedures for:

Reviewing construction plans? ☐ Yes ☑ No

Performing inspections? ☐ Yes ☑ No

Responding to violations? ☐ Yes ☑ No

C. What is the threshold for construction storm water plan review (e.g., all projects, projects disturbing greater than one acre, etc.)? Projects greater than 1 acre

D. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 13

E. How many of the sites identified in 4.D did you inspect during this reporting period? 4

F. Identify the number of active construction sites < 1 acre in operation in your jurisdiction at any time during the reporting period. n/a

G. How many of the sites identified in 4.F did you inspect during this reporting period? n/a

H. Describe, on average, the frequency with which your program conducts construction site inspections.

As-Needed (Activity on most sites was sporadic and very short term on most sites see Item 10.)

I. Do you prioritize certain construction sites for more frequent inspections? ☑ Yes ☐ No

If Yes, based on what criteria? Active counstruction taking place

J. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☐ Yes	Notice of violation	# 0	No Authority ☐
☐ Yes	Administrative fines	# 0	No Authority ☐
☐ Yes	Stop Work Orders	# 0	No Authority ☐
☐ Yes	Civil penalties	# 0	No Authority ☐
☐ Yes	Criminal actions	# 0	No Authority ☐
☐ Yes	Administrative orders	# 0	No Authority ☐
☐ Yes	Other ______	# ____	

K. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☐ Yes ☑ No

L. What are the 3 most common types of violations documented during this reporting period?

Silt fence installed improperly, SWPPP no on site or not easily accessible, inlet boxes not cleaned

M. How often do municipal employees receive training on the construction program? Annually

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☑ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☑ Yes ☐ No

C. Identify the number of outfalls in your storm sewer system. 26

D. Identify the number of Class V injection wells in your jurisdiction. ________

E. Do you have documented procedures, including frequency, for screening outfalls? ☐ Yes ☑ No

F. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?
26

G. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 26

H. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.
Annually

I. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☑ Yes ☐ No

J. Do you have documented procedures for tracing and removing an illegal discharge? ☐ Yes ☑ No

K. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☑ Yes ☐ No

L. During this reporting period, how many illicit discharges/illegal connections have you discovered? 0

M. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated?
n/a

N. Identify which of the following types of enforcement actions you used during the reporting period for illicit discharges, indicate the number of actions, or note those for which you do not have authority:

☐ Yes	Notice of violation	# 0	No Authority ☐
☐ Yes	Administrative fines	# 0	No Authority ☐
☐ Yes	Stop Work Orders	# 0	No Authority ☐
☐ Yes	Civil penalties	# 0	No Authority ☐
☐ Yes	Criminal actions	# 0	No Authority ☐
☐ Yes	Administrative orders	# 0	No Authority ☐
☐ Yes	Other ________	# ____	

O. How often do municipal employees receive training on the illicit discharge program? annually

6. Storm Water Management for Municipal Operations

A. Have storm water pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☐ Yes	☑ No
All municipal construction activities, including those disturbing less than 1 acre	☐ Yes	☑ No
All municipal turf grass/landscape management activities	☐ Yes	☑ No
All municipal vehicle fueling, operation and maintenance activities	☐ Yes	☑ No
All municipal maintenance yards	☑ Yes	☐ No
All municipal waste handling and disposal areas	☑ Yes	☐ No

Other ______________________________

B. Are storm water inspections conducted at these facilities? ☐ Yes ☑ No

C. If Yes, at what frequency are inspections conducted? ______________________

D. List activities for which operating procedures or management practices specific to storm water management have been developed (e.g., road repairs, catch basin cleaning).

____

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☐ Yes ☑ No

F. If Yes, which activities and/or facilities receive most frequent inspections? ______________________

G. How are you disposing of catch basin decant water and solid material?

____

H. Are municipal vehicles washed into an approved wastewater disposal system? ☑ Yes ☐ No

I. Do all municipal employees and contractors overseeing planning and implementation of storm water-related activities receive comprehensive training on storm water management? ☑ Yes ☐ No

J. If yes, do you also provide regular updates and refreshers? ☑ Yes ☐ No

K. If so, how frequently and/or under what circumstances? Yearly as part of conferences

7. Long-term (Post-Construction) Storm Water Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for storm water/water quality of all new and re-development projects?	☑ Yes	☐ No
Long-term operation and maintenance of storm water management controls?	☐ Yes	☑ No
Retrofitting to incorporate long-term storm water management controls?	☐ Yes	☑ No

B. If you have retrofit requirements, what are the circumstances/criteria?

____

C. What are your criteria for determining which new/re-development storm water plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.) Projects disturbing more than 1 acre.

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☑ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☑ Yes	☐ No
Peak discharge rates	☑ Yes	☐ No
Discharge frequency	☑ Yes	☐ No
Flow duration	☐ Yes	☑ No

F. Please provide the URL/reference where all post-construction storm water management standards can be found.
http://www.co.weber.ut.us/wiki/index.php/Municipal_BMPs

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 0

H. How many of the plans identified in 7.G were approved? 0

I. How many privately owned permanent storm water management practices/facilities were inspected during the reporting period? 0

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? 0

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections?
As-Needed

L. Do you have authority to take enforcement action for failure to properly operate and maintain storm water practices/facilities? ☐ Yes ☑ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain storm water management practices? 0

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☐ Yes ☑ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☐ Yes ☑ No

P. How often do municipal employees receive training on the post-construction program? annually

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? $20,000

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? not a line item

C. This year what is/are your source(s) of funding for the storm water program, and annual revenue (amount or percentage) derived from each?

Source: General Fund	Amount $ 20,000	OR % ____
Source: ____	Amount $ ____	OR % ____
Source: ____	Amount $ ____	OR % ____

D. How many FTEs does your municipality devote to the storm water program (specifically for implementing the storm water program; not municipal employees with other primary responsibilities)? 1 Full time equivalent

E. Do you share program implementation responsibilities with any other entities? ☑ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
Weber County	Training and public outreach	We provide material and some outreach programs

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your storm water management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Other agencies e.g. Weber Basin monitoring			

B. What environmental quality trends have you documented over the duration of your storm water program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

not available

10. Additional Information

In the space below, please include any additional information on the performance of your MS4 program. If providing clarification to any of the questions on this form, please provide the question number (e.g., 2C) in your response.

This was an interesting year for construction as you know. There were 13 different (4.D) sites that were active at some time durning the reporting period, but for most of the reporting period the sites were not being activly worked on. Many of the sites have been over grown with native weeds by the time we visited them, and there was no inspeciton report created. There were only 4 sites (4.E) that remained active for an extended amount of time. Thus there were only the 4 sites that have inspeciton reports for (4.E).

Certification Statement and Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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. ☒ Yes

Curtis Christensen 9-29-09

Name of Certifying Official, Title Date (mm/dd/yyyy)

Utah Pollutant Discharge Elimination System Storm Water Program
Small MS4 Report Form

The purpose of this report is to contribute information to an evaluation of the UPDES small municipal separate storm sewer system (MS4) permit program. Consistent with 40 CFR §122.37 the Utah Department of Environmental Quality is assessing the status of the storm water program. A "no" answer to a question does not necessarily mean noncompliance with your permit or with the federal regulations. In order to establish the range of variability in the program it is necessary to ask questions along a fairly broad performance continuum.

1. MS4 Information

Weber County Corporation
Name of MS4

Curtis | Christensen | ______
Name of Contact Person (First) | (Last) | (Title)

(801) 399-8374 | cchriste@co.weber.ut.us
Telephone (including area code) | Email

2380 Washington Blvd., Suite 240
Mailing Address

Ogden | UT | 84401
City | State | ZIP code

What size population does your MS4 serve? 15,280 (2006) UPDES number ______

What is the reporting period for this report? (mm/dd/yyyy) From 07/01/2009 to 06/30/2010

2. Water Quality Priorities

A. Does your MS4 discharge to waters listed as impaired on a state 303(d) list? ☐ Yes ☑ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4. Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL	TMDL assigns WLA to MS4
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

C. What specific sources contributing to the impairment(s) are you targeting in your storm water program?

______

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☑ Yes ☐ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☑ Yes ☐ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☑ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

Litter, sediments

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

Pineview cleanup day removed 1 dump truck load of litter from around Pineview reservoir

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your storm water program? ☐ Yes ☑ No

E. Do you belong to a storm water coalition or other advisory committee? If yes, describe: ☑ Yes ☐ No

Weber County Stormwater Coalition, USWAC

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements?	☑ Yes	☐ No
Other construction waste control requirements?	☑ Yes	☐ No
Requirement to submit construction plans for review?	☑ Yes	☐ No
MS4 enforcement authority?	☐ Yes	☑ No

B. Do you have written procedures for:

Reviewing construction plans?	☐ Yes	☑ No
Performing inspections?	☐ Yes	☑ No
Responding to violations?	☐ Yes	☑ No

C. What is the threshold for construction storm water plan review (e.g., all projects, projects disturbing greater than one acre, etc.)? Projects greater than 1 acre

D. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 5

E. How many of the sites identified in 4.D did you inspect during this reporting period? 5

F. Identify the number of active construction sites < 1 acre in operation in your jurisdiction at any time during the reporting period. n/a

G. How many of the sites identified in 4.F did you inspect during this reporting period? n/a

H. Describe, on average, the frequency with which your program conducts construction site inspections.

As-Needed (Activity on most sites was sporadic and very short term on most sites)

I. Do you prioritize certain construction sites for more frequent inspections? ☑ Yes ☐ No

If Yes, based on what criteria? Active counstruction taking place

J. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☐ Yes	Notice of violation	# 0	No Authority ☐
☐ Yes	Administrative fines	# 0	No Authority ☐
☐ Yes	Stop Work Orders	# 0	No Authority ☐
☐ Yes	Civil penalties	# 0	No Authority ☐
☐ Yes	Criminal actions	# 0	No Authority ☐
☐ Yes	Administrative orders	# 0	No Authority ☐
☐ Yes	Other ______	# ____	

K. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☐ Yes ☑ No

L. What are the 3 most common types of violations documented during this reporting period?
Silt fence installed improperly, SWPPP no on site or not easily accessible, inlet boxes not cleaned

M. How often do municipal employees receive training on the construction program? Annually

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☑ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☐ Yes ☑ No

C. Identify the number of outfalls in your storm sewer system. 26

D. Identify the number of Class V injection wells in your jurisdiction. 11

E. Do you have documented procedures, including frequency, for screening outfalls? ☐ Yes ☑ No

F. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?
26

G. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 26

H. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.
Annually

I. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☑ Yes ☐ No

J. Do you have documented procedures for tracing and removing an illegal discharge? ☐ Yes ☑ No

K. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☑ Yes ☐ No

L. During this reporting period, how many illicit discharges/illegal connections have you discovered? 2

M. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated?
2

N. Identify which of the following types of enforcement actions you used during the reporting period for illicit discharges, indicate the number of actions, or note those for which you do not have authority:

☑ Yes	Notice of violation	# 2	No Authority ☐
☐ Yes	Administrative fines	# 0	No Authority ☐
☐ Yes	Stop Work Orders	# 0	No Authority ☐
☐ Yes	Civil penalties	# 0	No Authority ☐
☐ Yes	Criminal actions	# 0	No Authority ☐
☐ Yes	Administrative orders	# 0	No Authority ☐
☐ Yes	Other ________	# ____	

O. How often do municipal employees receive training on the illicit discharge program? annually

6. Storm Water Management for Municipal Operations

A. Have storm water pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☐ Yes	☑ No
All municipal construction activities, including those disturbing less than 1 acre	☐ Yes	☑ No
All municipal turf grass/landscape management activities	☐ Yes	☑ No
All municipal vehicle fueling, operation and maintenance activities	☐ Yes	☑ No
All municipal maintenance yards	☑ Yes	☐ No
All municipal waste handling and disposal areas	☐ Yes	☑ No

Other __________

B. Are storm water inspections conducted at these facilities? ☑ Yes ☐ No

C. If Yes, at what frequency are inspections conducted? Quarterly (When it rains)

D. List activities for which operating procedures or management practices specific to storm water management have been developed (e.g., road repairs, catch basin cleaning).

catch basin inspections

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☐ Yes ☑ No

F. If Yes, which activities and/or facilities receive most frequent inspections? __________

G. How are you disposing of catch basin decant water and solid material?

Evaporation, infiltration, solid waste disposal

H. Are municipal vehicles washed into an approved wastewater disposal system? ☑ Yes ☐ No

I. Do all municipal employees and contractors overseeing planning and implementation of storm water-related activities receive comprehensive training on storm water management? ☑ Yes ☐ No

J. If yes, do you also provide regular updates and refreshers? ☑ Yes ☐ No

K. If so, how frequently and/or under what circumstances? Yearly as part of conferences

7. Long-term (Post-Construction) Storm Water Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for storm water/water quality of all new and re-development projects?	☑ Yes	☐ No
Long-term operation and maintenance of storm water management controls?	☐ Yes	☑ No
Retrofitting to incorporate long-term storm water management controls?	☐ Yes	☑ No

B. If you have retrofit requirements, what are the circumstances/criteria?

____

C. What are your criteria for determining which new/re-development storm water plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.) Projects disturbing more than 1 acre.

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☑ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☐ Yes	☑ No
Peak discharge rates	☑ Yes	☐ No
Discharge frequency	☐ Yes	☑ No
Flow duration	☐ Yes	☑ No

F. Please provide the URL/reference where all post-construction storm water management standards can be found.
http://www.co.weber.ut.us/wiki/index.php/Municipal_BMPs

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 0

H. How many of the plans identified in 7.G were approved? n/a

I. How many privately owned permanent storm water management practices/facilities were inspected during the reporting period? n/a

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? n/a

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections?
As-Needed

L. Do you have authority to take enforcement action for failure to properly operate and maintain storm water practices/facilities? ☐ Yes ☑ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain storm water management practices? 0

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☐ Yes ☑ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☐ Yes ☑ No

P. How often do municipal employees receive training on the post-construction program? annually

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? $20,000

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? not a line item

C. This year what is/are your source(s) of funding for the storm water program, and annual revenue (amount or percentage) derived from each?

Source	Amount $	OR %
General Fund	$20,000	

D. How many FTEs does your municipality devote to the storm water program (specifically for implementing the storm water program; not municipal employees with other primary responsibilities)? 0

E. Do you share program implementation responsibilities with any other entities? ☑ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
Weber County	Training and public outreach	We provide material and some outreach programs

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your storm water management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
Other agencies e.g. Weber Basin monitoring			

B. What environmental quality trends have you documented over the duration of your storm water program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

not available

10. Additional Information

In the space below, please include any additional information on the performance of your MS4 program. If providing clarification to any of the questions on this form, please provide the question number (e.g., 2C) in your response.

Most of the construction sites that had NOIs taken out on them have not been under construction at all, and have been re-vegitated.

Certification Statement and Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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.

☒ Yes

Kenneth A Bischoff

Name of Certifying Official, Title

09/29/2010

Date (mm/dd/yyyy)

Problems with Pollutant and Source of Pollutant

Parameter	Problems with Pollutant	Possible Source of Pollutant
BOD_5		WWTP--human waste & food residue, food processing, paper industries, Ag runoff--animal droppings, crop residues
COD		
Nitrate as N	Can cause oxygen depletion	
Nitrite as N	Can cause oxygen depletion	
Total Ammonia Nitrogen (NH_3)		
Total Kjeldahl Nitrogen (TKN)		
Total Nitrogen (TN)		Fertilizers
Phosphate, Ortho as PO4		
Total Phosphorus (TP)	Cause algae growth, which when they die exert a high BOD demand	WWTP--phosphorus based detergents, Agricultural--Fertilizer--runoff, food processing waste
pH		Industry,
Hardness (as $CaCO_3$)		
Total Dissolved Solids (TDS)		Salts--deicing agent for roads in winter, industries
Total Suspended Solids (TSS)		Mining, logging, construction activity
Calcium, Total		
Magnesium, Total		
Cadmium, Total	Bioaccumulates in tissues, kidney damage, chronic effects	Sewage sludge applied to land, phosphate fertilizers
Copper, Dissolved		WWTP, industry, architectural copper, vehicle brake pads, copper-containing pesticides, and marine antifouling coatings; primary discharger might vary with the rainy season
Lead, Dissolved	Bioaccumulates in tissues, chronic effects--anaemia, neuropsychological disorders	Cars, mining
Zinc, Dissolved	Can be toxic at high levels to organisms	Tire wear, industries
E. coli	Is used as an indicator of pathogens	Animals and people
Oil & Grease		Restaurants, cars, asphalt surfaces
Water Temperature	Alters plant and animal eco system	High temperatures from industry
Turbidity	Affects vegetative growth, ability of light to transmit through water	Sediment--eroded soil particles, bacteria
Conductivity		
Dissolved Oxygen		
Dissolved Oxygen, Saturated		
Oxidation Reduction Potential		

The landuses for each basin are based on outfall catchment, and do not reflect overland flow from non-connected areas. The following trends are noted for the receiving water EMC results:

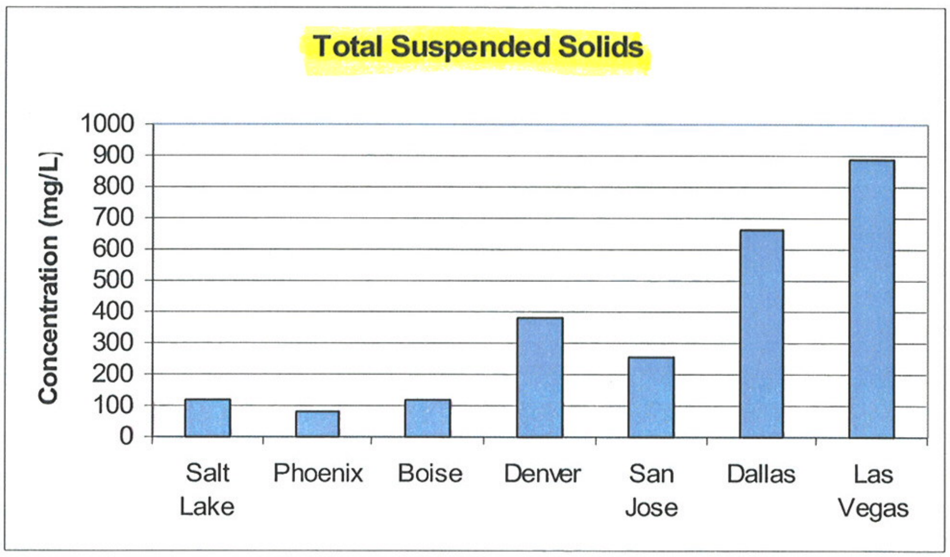
- The EMC for the Big Cottonwood Creek basin is lower compared with the other receiving waterbodies. This includes all of the parameters, with the exception of metals in 2008. The majority of the landuse in this basin is residential.
- The EMC for the Parley's Creek basin was higher than the other receiving waterbodies for total suspended solids and lead. The landuse in this basin consists of mixed and residential mixed.
- Total suspended solid levels were fairly consistent from 2005 to 2008.
- It is noted that an increase in many constituents occurred in 2008. This is likely due to the fact that the EMC methodology changed in 2008, as discussed in Section 4.2.

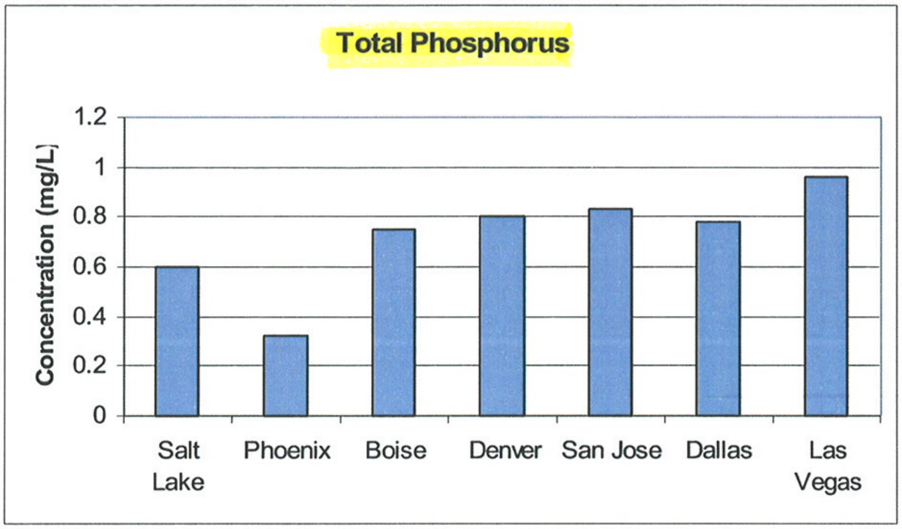
4.2.3 Municipality Event Mean Concentration Comparison

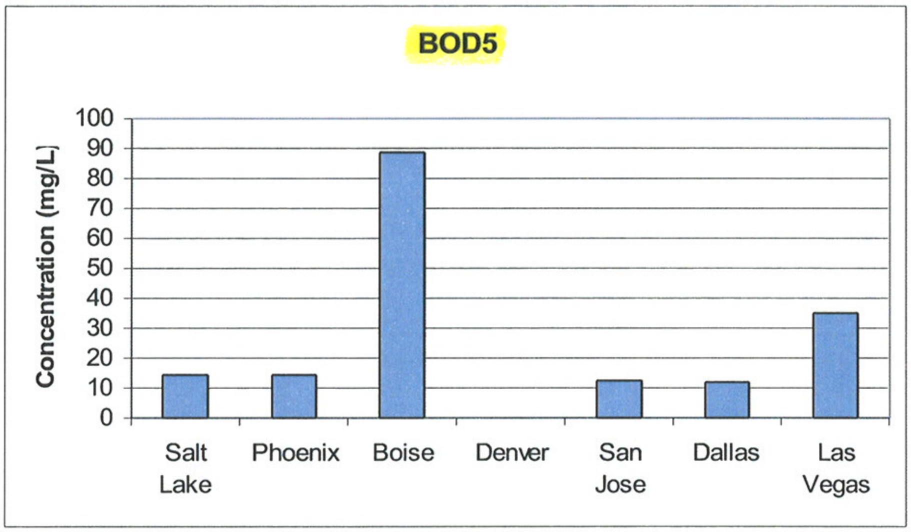
A comparison of EMCs was conducted to determine how the Salt Lake County EMC corresponds with other municipalities with similar dry climates. The municipalities chosen for the comparison were Phoenix, Arizona; Boise, Idaho; Denver, Colorado; San Jose, California; Dallas, Texas and Las Vegas, Nevada (The Practice of Watershed Protection: Article 66, 2000). While it is recognized that this data is dated, it provides a good method of comparison.

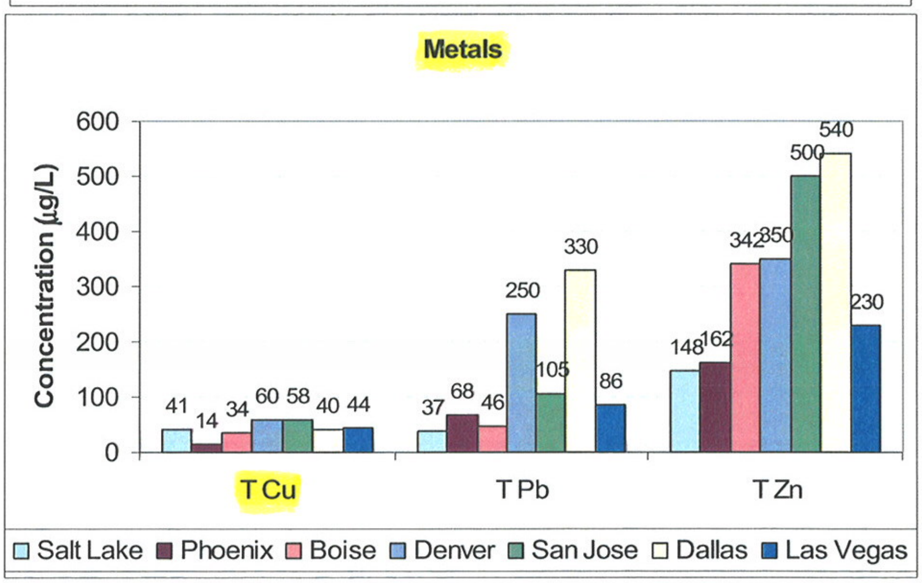
Figure 4-6 shows the breakdown of the comparison with Salt Lake County EMCs. The graphs indicate that Salt Lake County's EMCs are typically lower in comparison with the other municipalities.

FIGURE 4-6
Municipal EMC Comparison




Total Phosphorus
Concentration (mg/L)
1.2
1
0.8
0.6
0.4
0.2
0
Salt Lake
Phoenix
Boise
Denver
San Jose
Dallas
Las Vegas


BOD5
Concentration (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Salt Lake
Phoenix
Boise
Denver
San Jose
Dallas
Las Vegas


Metals
Concentration (µg/L)
600
500
400
300
200
100
0
41
14
34
60
58
40
44
37
68
46
250
105
330
86
148
162
342
350
500
540
230
T Cu
T Pb
T Zn
Salt Lake
Phoenix
Boise
Denver
San Jose
Dallas
Las Vegas

each representative land use in the instances where a station was not sampled. This results in a more accurate estimate of EMCs.

TABLE 4-2
Unincorporated Salt Lake County Event Mean Concentration Summary

Constituent	2000 EMC (mg/L)	2005 EMC (mg/L)	2008 EMC[1] (mg/L)
Total Suspended Solids	141	106	117
Total Phosphorus	0.63	0.57	0.6
BOD_5	13	12.1	14.4
Total Copper	0.031	0.036	0.041
Total Lead	0.037	0.033	0.037
Total Zinc	0.198	0.136	0.148

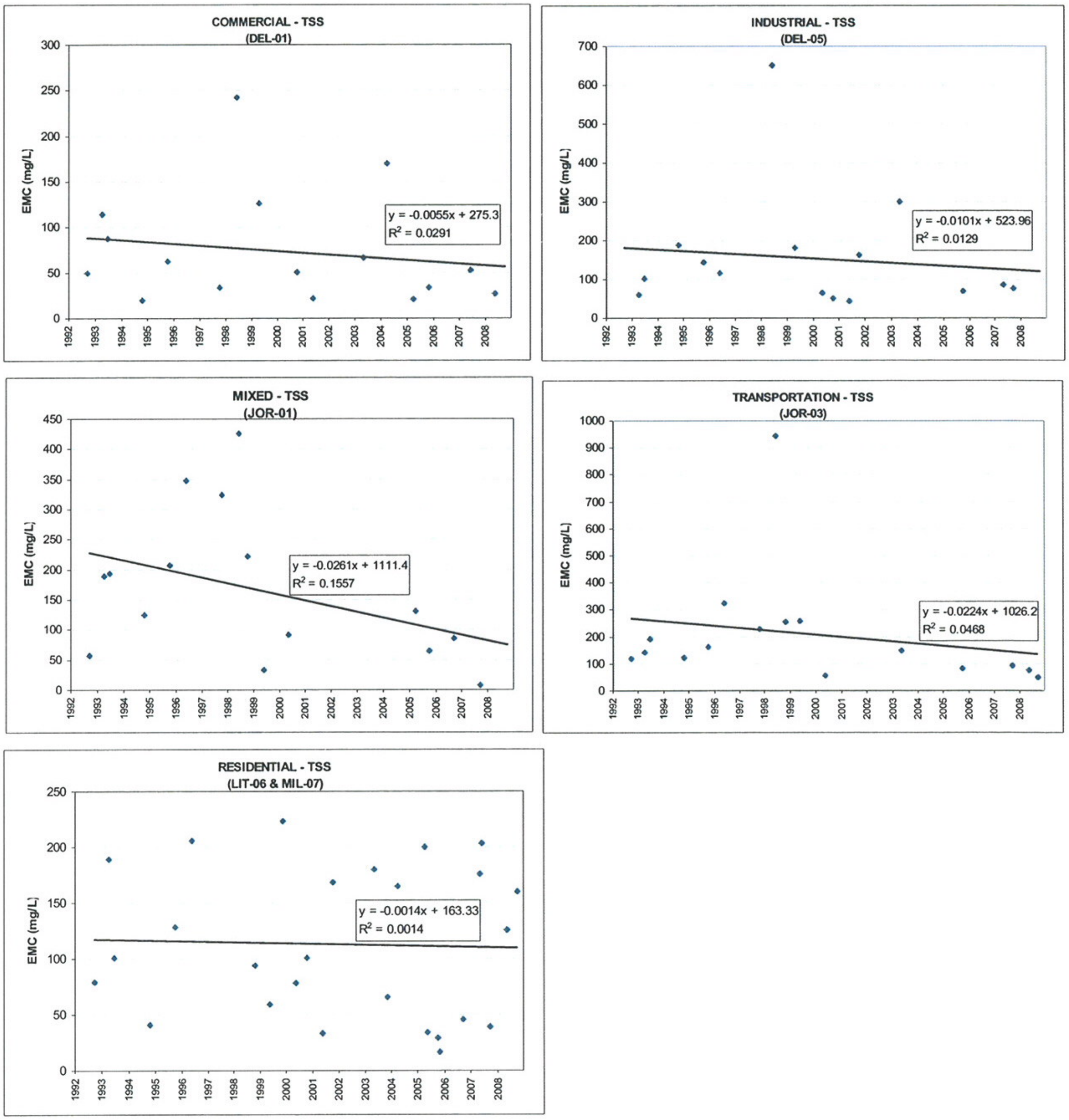
[1] Methods for EMC calculations were modified for 2008

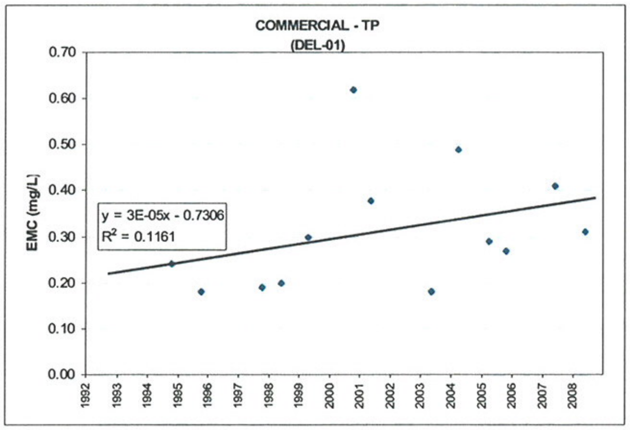
4.2.1 Outfall Event Mean Concentration Trends

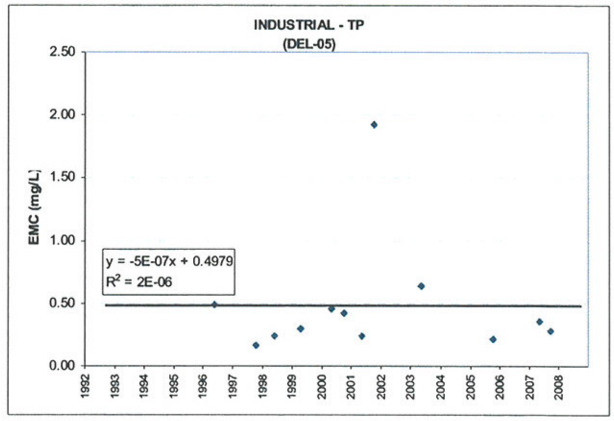
Event Mean Concentrations (EMCs) were calculated for each outfall, representing an EMC for specific landuses. This analysis provides information regarding the effect of landuse within a basin on stormwater quality. A trend analysis for each constituent for each outfall EMC is presented in Figure 4-3.

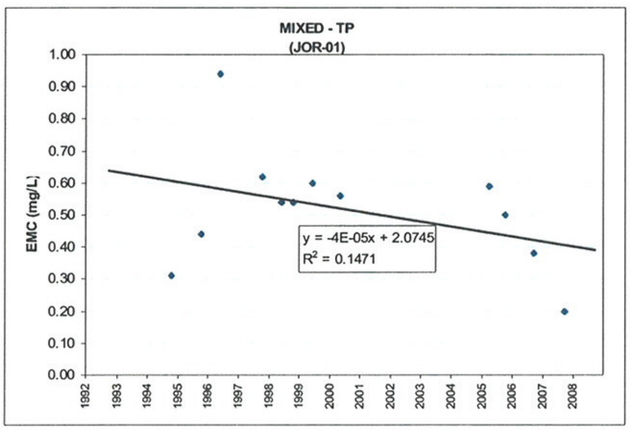
A linear regression analysis was performed in order to ascertain if there was an historical trend in outfall event concentrations. In the linear regression analysis, the outfall event concentration was plotted against date of the sampling event and the best-fit line was determined using the least-squares error method. The trend is shown by the slope of the best-fit line (negative slope indicates decreasing concentration and positive slope indicates increasing concentration) and the strength of the trend is measured by the correlation coefficient [R^2] (the closer the value is to 1, the greater the strength of the correlation).

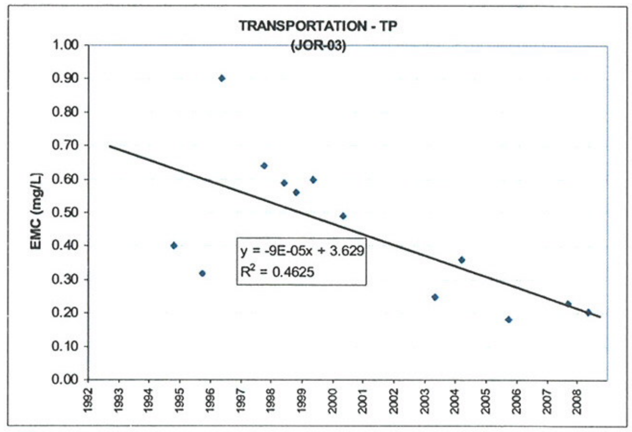
FIGURE 4-3
Outfall EMC Trends

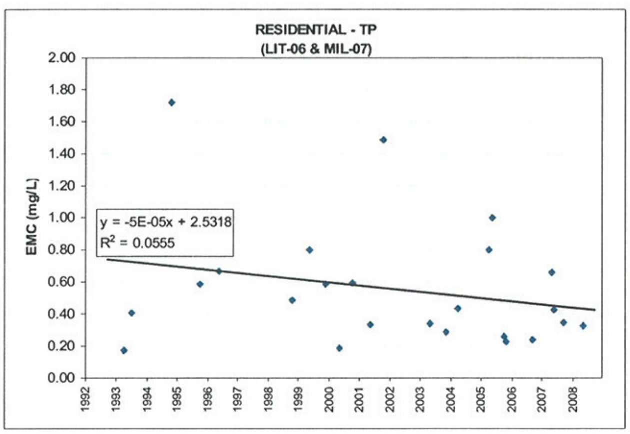


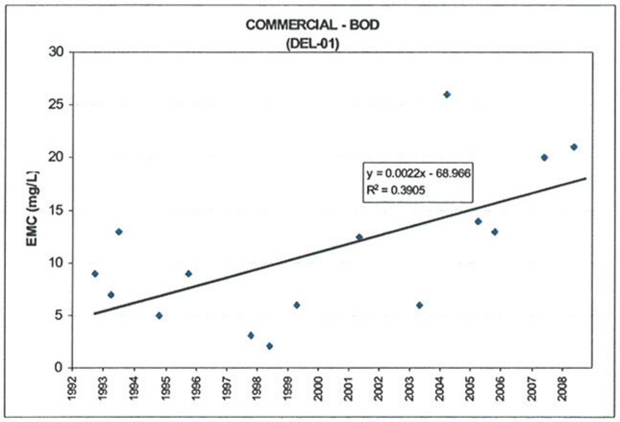

COMMERCIAL - TP
(DEL-01)
EMC (mg/L)
y = 3E-05x - 0.7306
R^2 = 0.1161

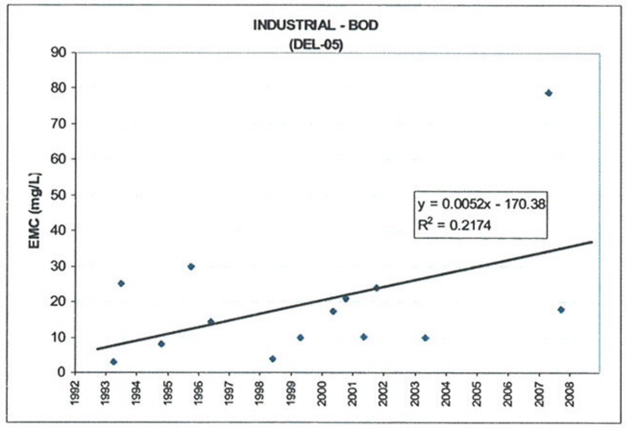

INDUSTRIAL - TP
(DEL-05)
EMC (mg/L)
y = -5E-07x + 0.4979
R^2 = 2E-06

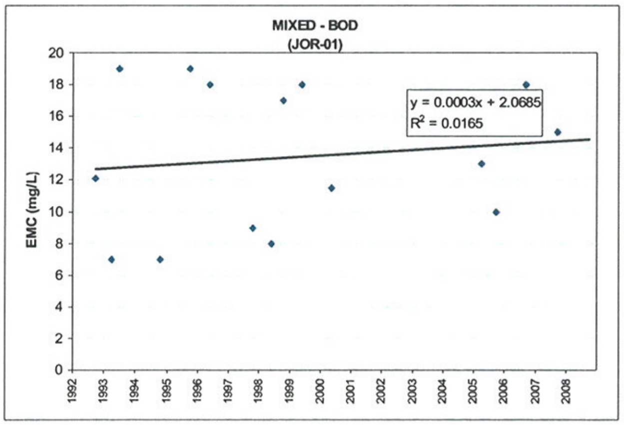

MIXED - TP
(JOR-01)
EMC (mg/L)
y = -4E-05x + 2.0745
R^2 = 0.1471

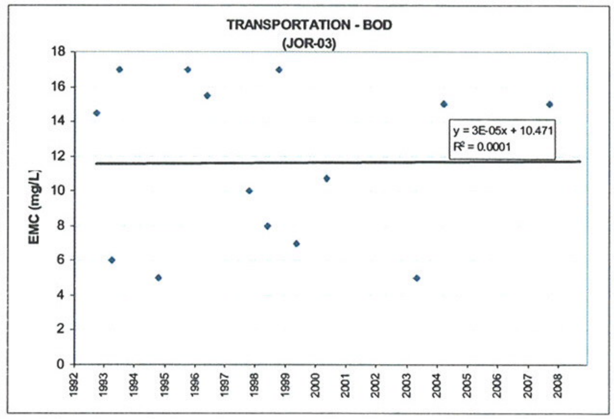

TRANSPORTATION - TP
(JOR-03)
EMC (mg/L)
y = -9E-05x + 3.629
R^2 = 0.4625

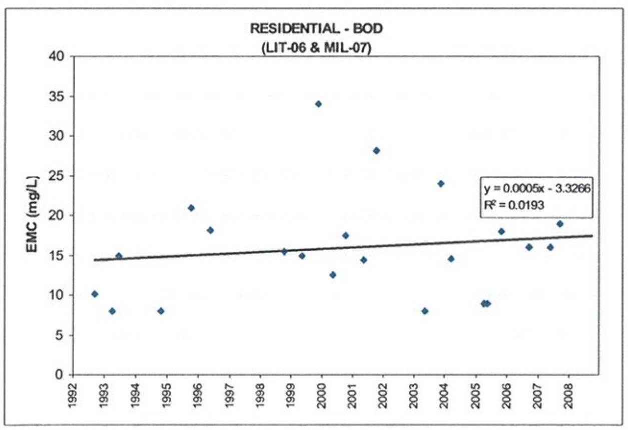

RESIDENTIAL - TP
(LIT-06 & MIL-07)
EMC (mg/L)
y = -5E-05x + 2.5318
R^2 = 0.0555

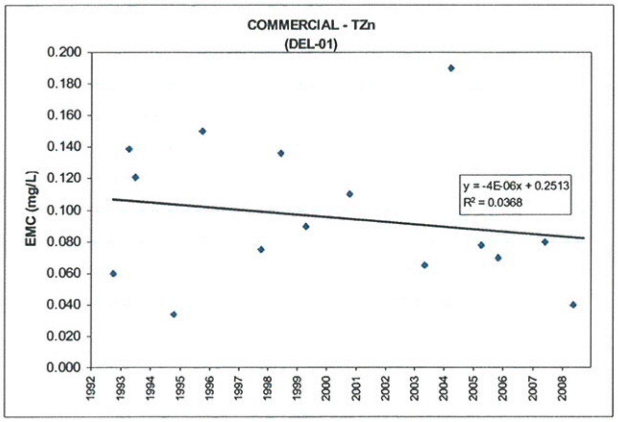

COMMERCIAL - BOD
(DEL-01)
y = 0.0022x - 68.966
R² = 0.3905
EMC (mg/L)

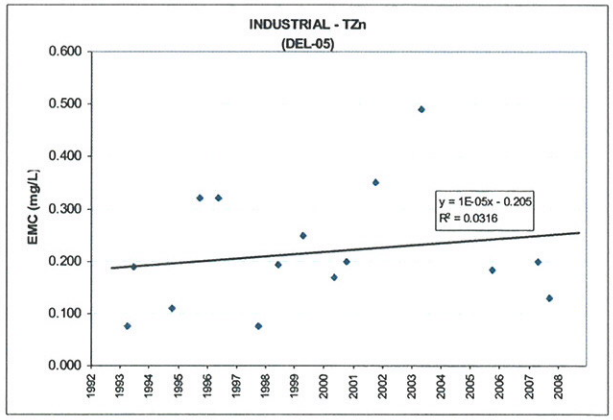

INDUSTRIAL - BOD
(DEL-05)
y = 0.0052x - 170.38
R² = 0.2174
EMC (mg/L)

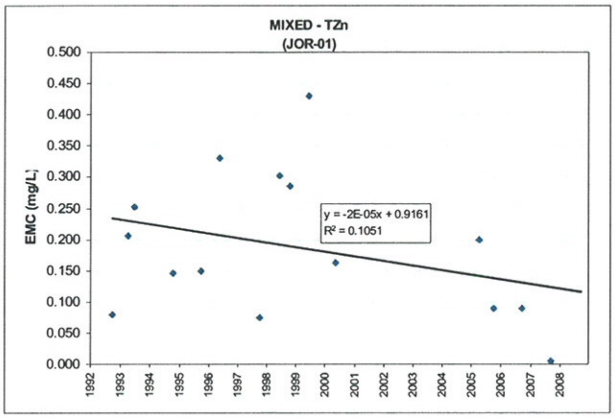

MIXED - BOD
(JOR-01)
y = 0.0003x + 2.0685
R² = 0.0165
EMC (mg/L)

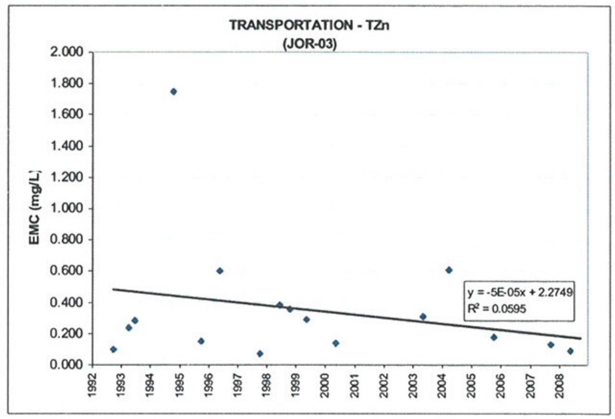

TRANSPORTATION - BOD
(JOR-03)
y = 3E-05x + 10.471
R² = 0.0001
EMC (mg/L)

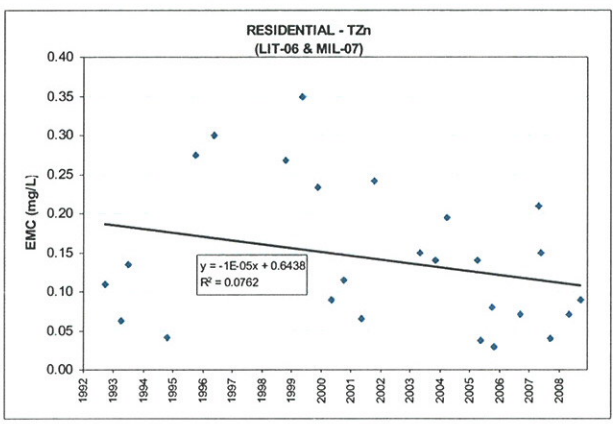

RESIDENTIAL - BOD
(LIT-06 & MIL-07)
y = 0.0005x - 3.3266
R² = 0.0193
EMC (mg/L)











The results of this trend analysis varied; however, the following was noted:

- TSS showed a general trend downwards for all landuses; however, the strength of the trend was very poor (R^2 between 0.001 and 0.156)
- Total Phosphorus trend varied, with an upward trend for commercial landuse and downward trend for mixed, transportation and residential. The strength of the trend was generally poor, with the exception of transportation, which was fair.
- BOD_5 was generally upwards, particularly for the commercial landuse, while transportation and residential landuses were flat.

- Total Suspended Solids
- Total Phosphorus
- Total Cadmium
- Total Copper
- Total Lead
- Total Zinc

The complete set of sample results is available in the pollutograph memorandums (Salt Lake County, 2005 and 2006) and at the Engineering Division.

5.2 OBSERVATIONS

It is difficult to make conclusions due to the data variation. However, the following trends were observed (refer to Appendix C for graphs of the results):

2005

Phosphorus - The data from JOR-03 indicates this initial loading (during the first 1 ½ hour of the storm). The concentration then decreases and increases again with the second wave of precipitation. DEL-05 and MIL-07 did not exhibit a significant first flush response.

TSS - Similar trends were noticed for TSS; first flush, followed by a second increase in concentration with the second wave of precipitation at JOR-03 and MIL-07.

Phosphorus/TSS - A simple comparison was conducted for phosphorus and TSS levels for the three stations. The phosphorus and TSS concentrations showed similar trends for DEL-05 and JOR-03. No obvious trend could be determined for MIL-07.

Total Metals

Cadmium - The majority of the data for cadmium was below the detection level (0.0005 mg/L), and did not fluctuate with the flow. (The lab has indicated that accuracy decreases with concentrations near the detection level.)

Copper - Copper levels did not fluctuate with the flow with the exception of the second wave of precipitation at JOR-03.

Lead - Lead levels indicated a first flush, followed by an increase with the second wave of precipitation at JOR-03 and MIL-07.

Zinc - Zinc concentrations followed a similar trend to Lead in that a first flush is observed, followed by another increase in concentration with the second wave of precipitation at JOR-03 and MIL-07.

2006

Phosphorus - A first flush of phosphorus was indicated at stations LIT06 and MIL07. JOR01 did not exhibit a first flush.

TSS – Similar trends were noticed for TSS, with a slight first flush at JOR01.

Phosphorus/TSS - A simple comparison was conducted for phosphorus and TSS levels for the three stations. This comparison indicates a relationship between TSS and phosphorus, particularly in stations LIT06 and MIL07.

Total Metals

Cadmium - The majority of the data for cadmium was below the detection level (0.005 & 0.01 mg/L), and did not fluctuate with the flow. (The lab has indicated that accuracy decreases with concentrations near the detection level.)

Copper - The majority of the data for copper at stations JOR01 and MIL07 was below the detection level. The copper concentrations at LIT06 indicated a definite first flush.

Lead - All of the sample results for lead were below the detection level.

Zinc - Zinc concentrations indicated a first flush, particularly at stations LIT06 and MIL07.

2008

Phosphorus - A first flush of phosphorus was not indicated, with the exception of LIT-06 on May 12, 2008. The results from the October storm were affected by high detection levels, and consequently are not of much value. The high detection level was due to the low volume of sample.

TSS - The results varied, with a slight first flush indicated in LIT-06 in May.

Phosphorus/TSS - A simple comparison was conducted for phosphorus and TSS levels for the three stations. This comparison indicates a relationship between TSS and phosphorus, particularly during the spring storms, and at MIL07 during the fall storm.

Total Metals

Cadmium - The majority of the data for cadmium was below the detection level (0.005, 0.01 & 0.025 mg/L). (The lab has indicated that accuracy decreases with concentrations near the detection level.)

Copper – Results for copper varied, not showing a strong trend.

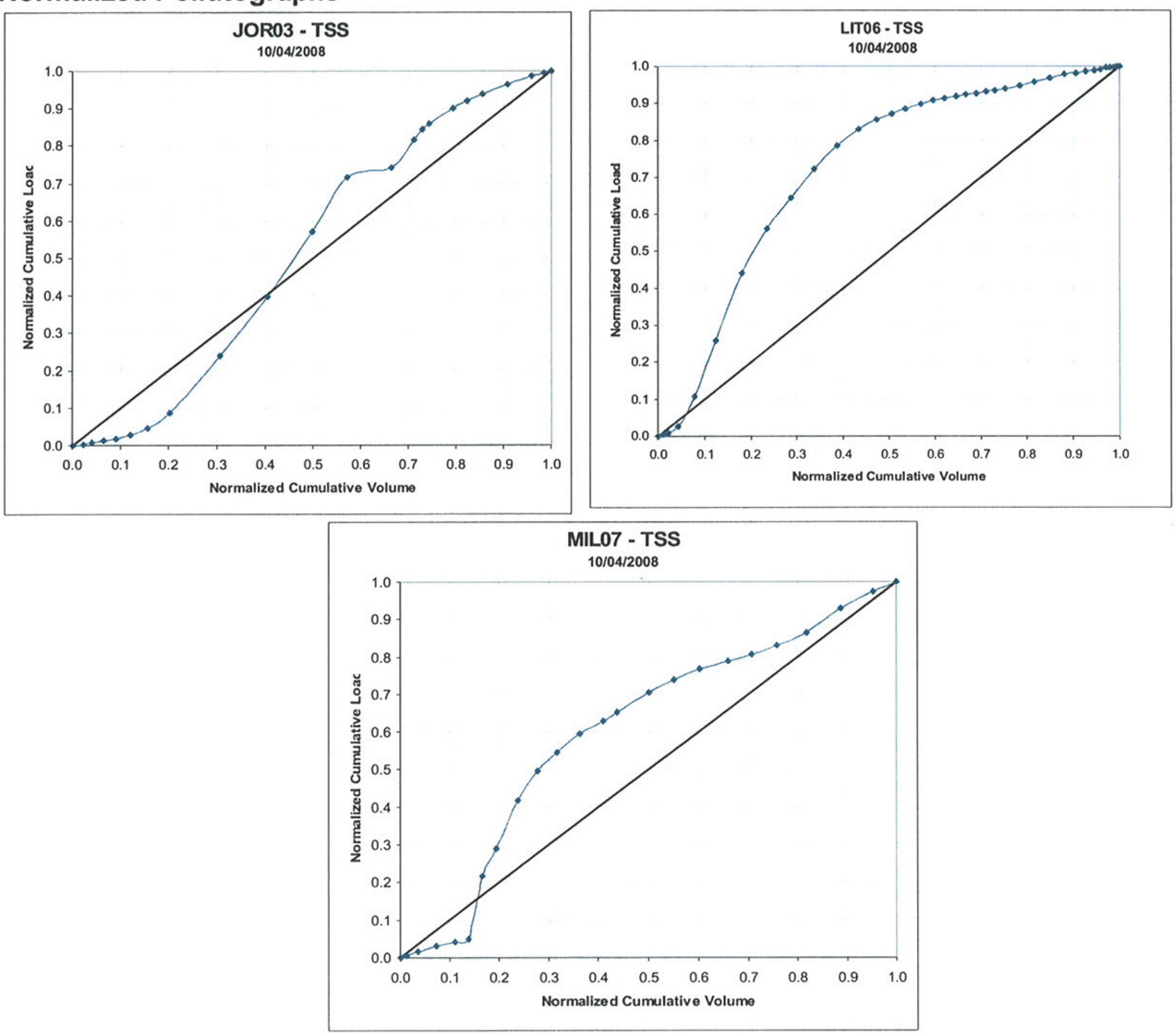
Lead – The majority of the sample results for lead were below the detection level.

Zinc – The results for zinc were also varied, however, a minor trend indicating a relationship between flow and concentration is noted (JOR-03 & LIT-06 10/4/08; LIT-06 5/12/08).

5.3 FIRST FLUSH ANALYSIS

The pollutographs were used to analyze first flush trends during a storm event. The first flush phenomenon was evaluated by a dimensionless plot of the normalized cumulative pollutant mass versus the normalized cumulative runoff volume. Three of these graphs are presented in Figure 5-1; the complete set of graphs presented in Appendix C. A 45° line (1:1) plotted on each load graph indicates constant pollutant concentration throughout the storm event. A first flush phenomenon is indicated when the storm line is above the 45° line at the earlier stages of the storm event.

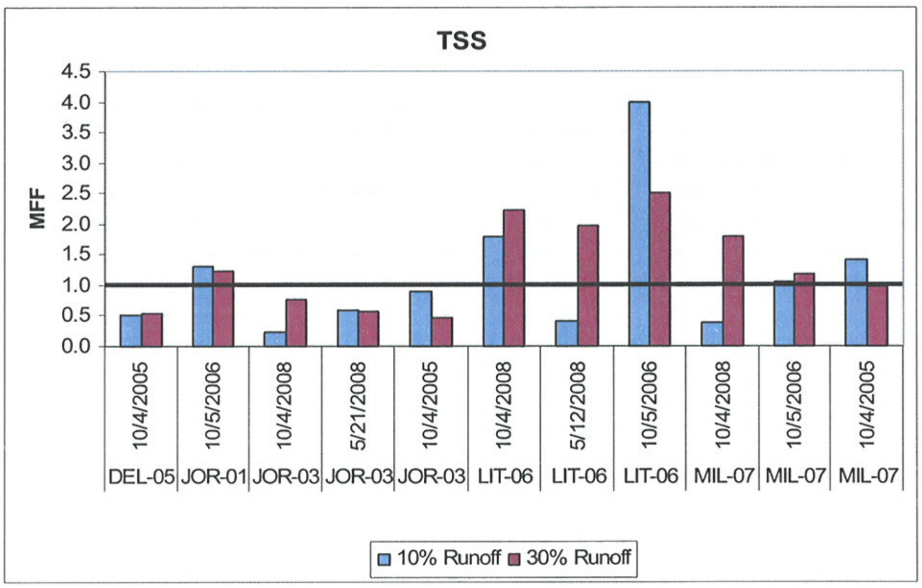
FIGURE 5-1
Normalized Pollutographs

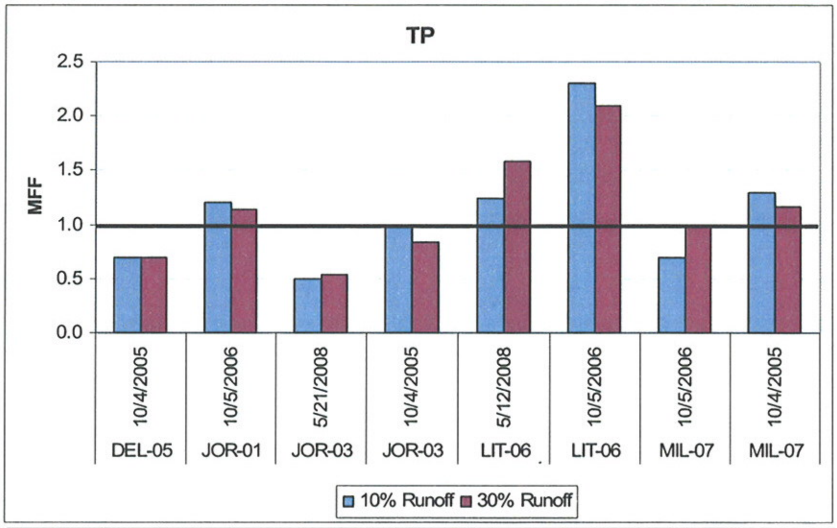


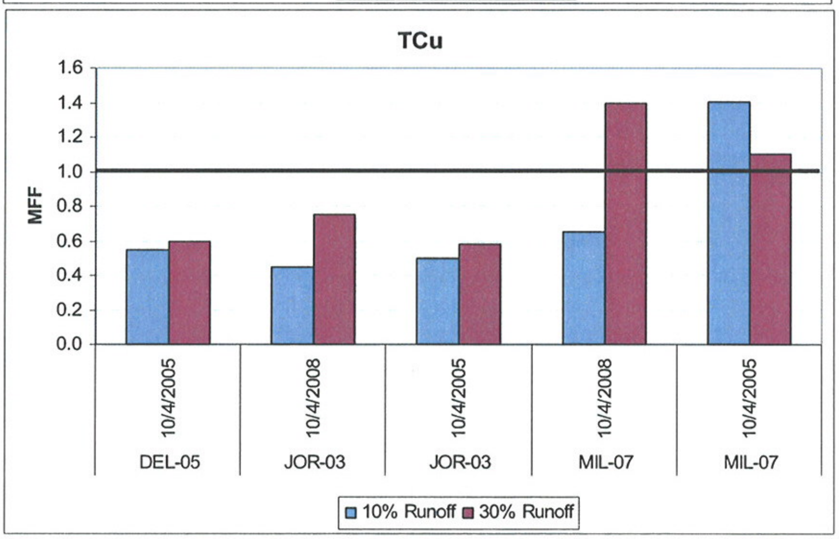
In order to quantify the strength of the first flush phenomenon, the mass first flush ratio was calculated for each load graph. The mass first flush ratio is the ratio of normalized cumulative pollutant mass to normalized cumulative runoff volume at selected fractions of runoff volume. For this analysis, the mass first flush ratio was calculated at 10% and 30% runoff volume (0.1 and 0.3 normalized cumulative runoff volume). The methodology utilized herein is similar to that presented in M. Kayhanian and M. Stenstrom (2008). A higher ratio represents a greater first flush phenomenon; ratios above 1.0 represent the presence of a first flush. As shown in Figure 5-2, the presence of a first flush is variable with storms and stations. The following trends are noted:

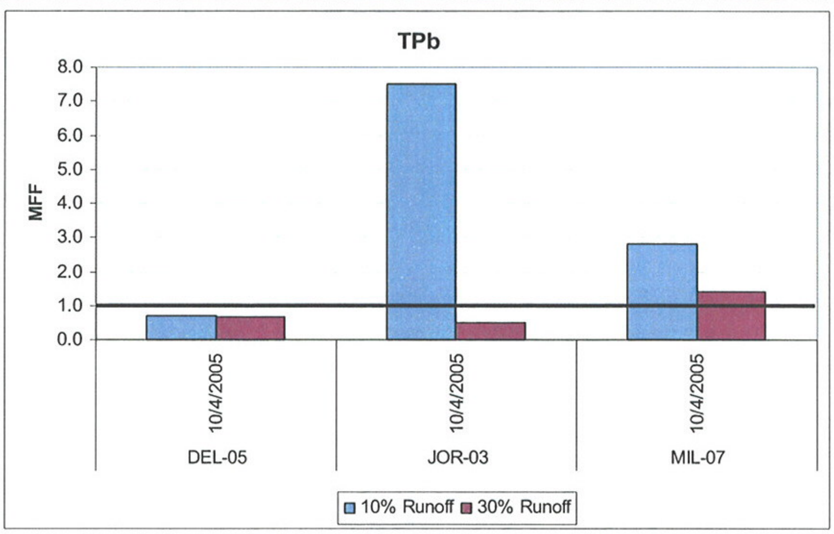
- DEL-05 did not exhibit a first flush
- JOR-01shows a slight first flush
- JOR-03 typically did not show a first flush with the exception of the 2005 storm
- LIT-06 & MIL-07 typically had a first flush, although these were relatively small at MIL-07
- the greatest first flush occurred at LIT-06 for the 2006 storm event

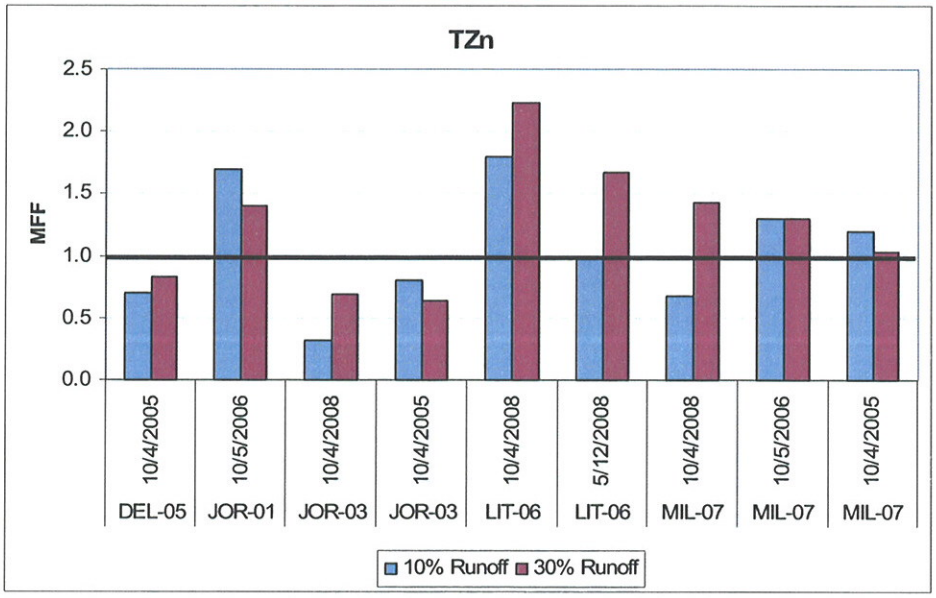
FIGURE 5-2
Mass First Flush Ratio




TP
2.5
2.0
1.5
1.0
0.5
0.0
MFF
10/4/2005
10/5/2006
5/21/2008
10/4/2005
5/12/2008
10/5/2006
10/5/2006
10/4/2005
DEL-05
JOR-01
JOR-03
JOR-03
LIT-06
LIT-06
MIL-07
MIL-07
10% Runoff
30% Runoff


TCu
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
MFF
10/4/2005
10/4/2008
10/4/2005
10/4/2008
10/4/2005
DEL-05
JOR-03
JOR-03
MIL-07
MIL-07
10% Runoff
30% Runoff


TPb
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
MFF
10/4/2005
10/4/2005
10/4/2005
DEL-05
JOR-03
MIL-07
10% Runoff
30% Runoff



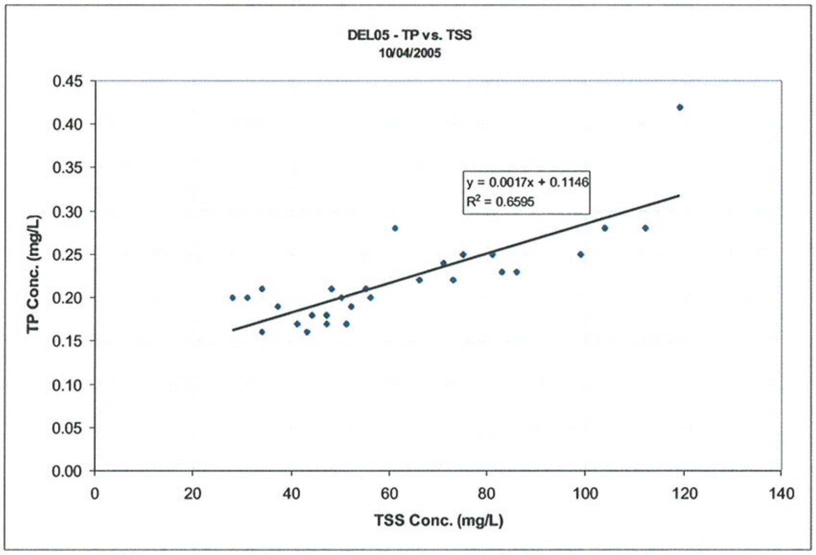
The first flush phenomenon in the storm event sampled was either not present or weak indicating that there may not be much benefit to treating the first part of the storm and bypassing the high flows. For example, in order to achieve an 80% pollutant removal efficiency, most likely 80% of the runoff volume would need to be treated by the BMP.

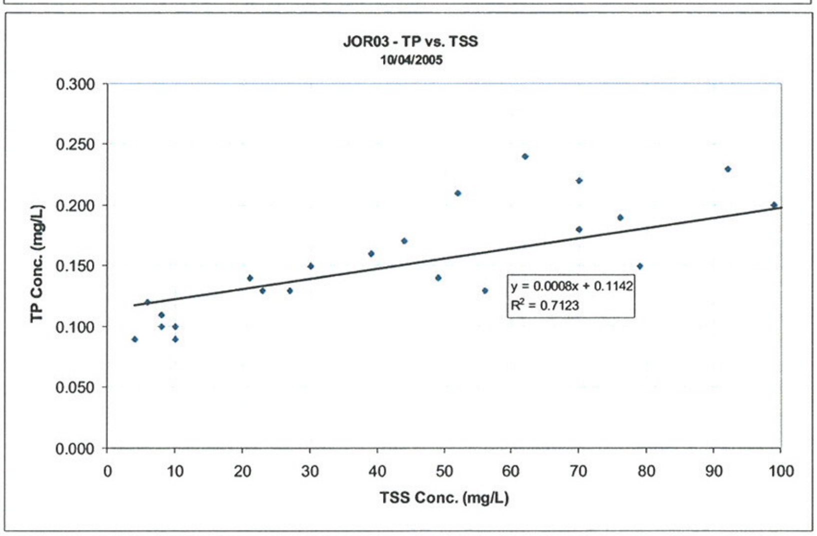
This lack of a clear first flush follow similar results from other studies. A study conducted in North Carolina, (Tucker, 2007), found a "high inconsistency in the occurrence of the first flush effect…". It was further stated that this is consistent with other research regarding the first flush phenomenon. Another study conducted by A. Taebi and R. L. Droste (2004), indicated a relatively weak first flush for some parameters, no correlation for some, and an increase in the first flush load of TSS when the intensity and duration of a storm event increases. However, a study conducted by CALTRANS (2005), identified several types of first flushes for highway sites; all indicating the "discharge of greater concentrations or mass in the early part of a storm event" with the exception of a seasonal first flush (first flush types analyzed were PAH, Litter, Particle and Seasonal). Therefore, the County's data and lack of a strong first flush occurrence is not unprecedented.

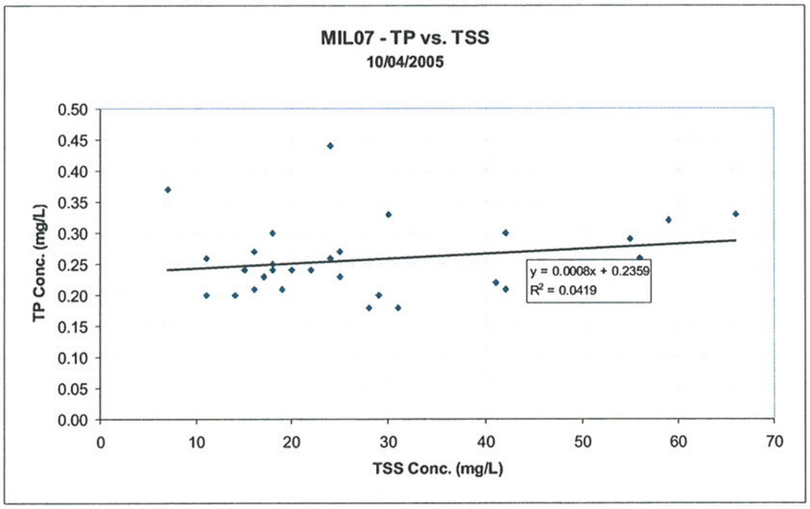
5.4 TSS AND TOTAL PHOSPHORUS RELATIONSHIP

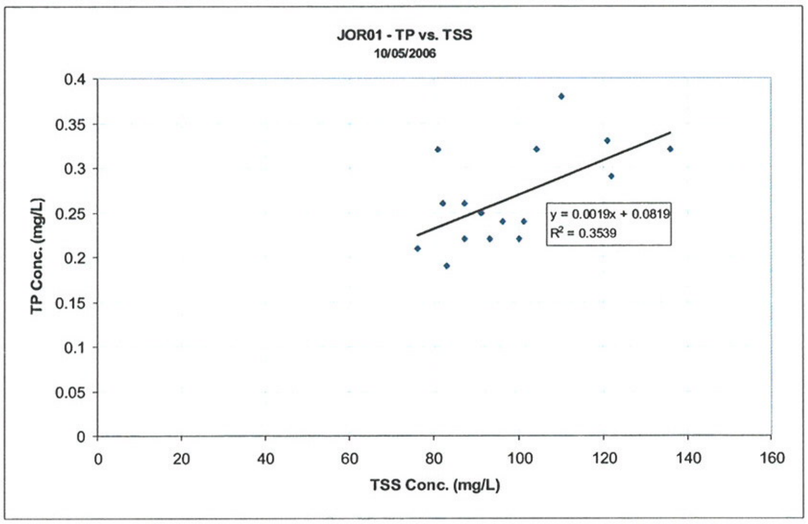
An analysis of the relationship between TSS and total phosphorus (TP) data obtained for the pollutographs was conducted. The purpose was to investigate the general assumption that much of the phosphorus present in stormwater is adsorbed to solids. A linear regression analysis was performed in order to identify if there was any correlation between TSS and TP concentrations. The results from this analysis are presented in Figure 5-3. Data from 2008 was not included in this analysis due to the high detection level for phosphorus during this sampling event.

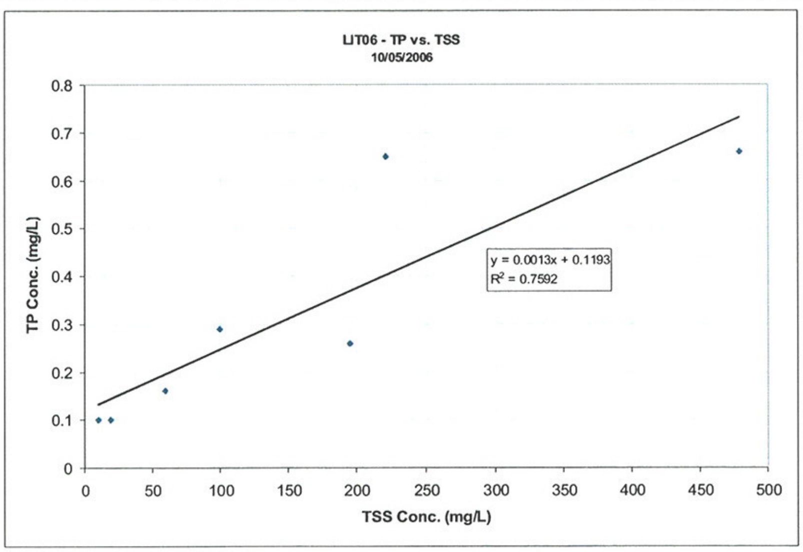
FIGURE 5-3
TP vs TSS Trend Analysis

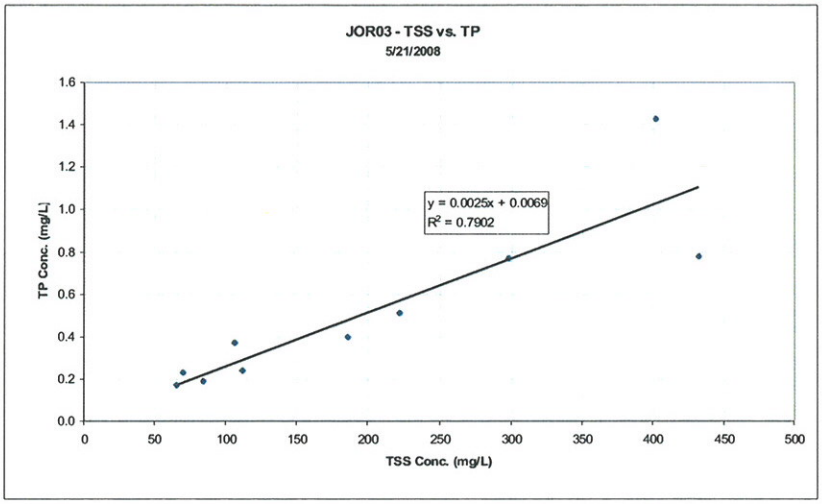


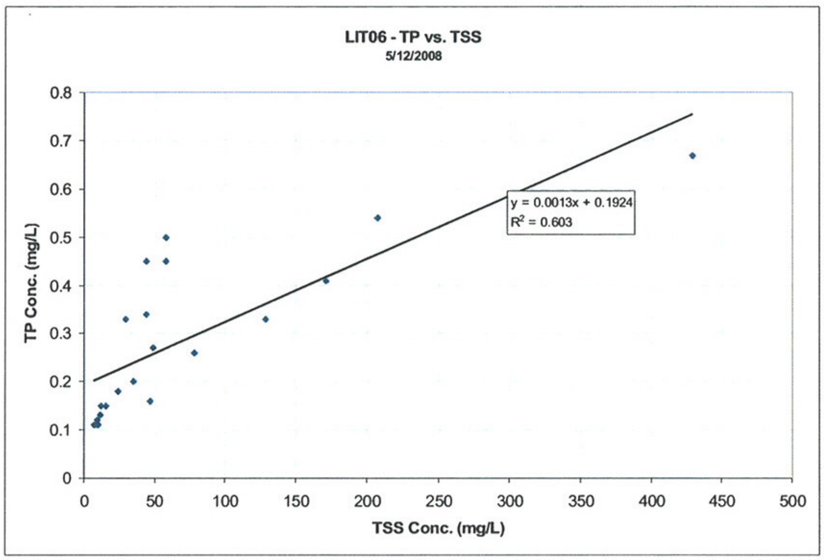


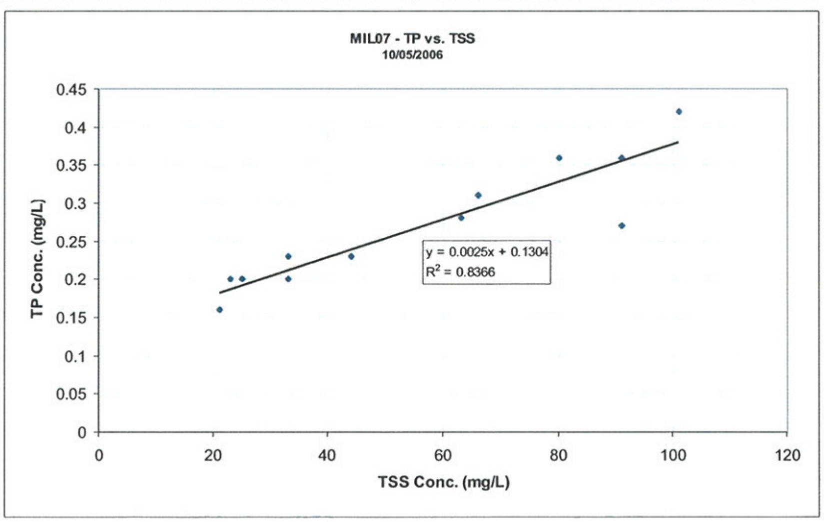

MIL07 - TP vs. TSS
10/04/2005
y = 0.0008x + 0.2359
R^2 = 0.0419
TP Conc. (mg/L)
TSS Conc. (mg/L)


JOR01 - TP vs. TSS
10/05/2006
y = 0.0019x + 0.0819
R^2 = 0.3539
TP Conc. (mg/L)
TSS Conc. (mg/L)


LIT06 - TP vs. TSS
10/05/2006
y = 0.0013x + 0.1193
R^2 = 0.7592
TP Conc. (mg/L)
TSS Conc. (mg/L)


JOR03 - TSS vs. TP
5/21/2008
y = 0.0025x + 0.0069
R² = 0.7902
TP Conc. (mg/L)
TSS Conc. (mg/L)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
50
100
150
200
250
300
350
400
450
500


LIT06 - TP vs. TSS
5/12/2008
y = 0.0013x + 0.1924
R² = 0.603
TP Conc. (mg/L)
TSS Conc. (mg/L)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0
50
100
150
200
250
300
350
400
450
500


MIL07 - TP vs. TSS
10/05/2006
y = 0.0025x + 0.1304
R² = 0.8366
TP Conc. (mg/L)
TSS Conc. (mg/L)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
0.45
0
20
40
60
80
100
120

The following trends are noted from the graphs in Figure 5-3:

- In all cases, the TP concentration increased with the TSS concentration; the slope varied from 0.0008 to 0.0027 TP to TSS concentration.

- The strength of the correlation was generally strong, with the exception of MIL-07 for the 10/04/2005 storm, which was very poor.

The correlation between TSS and TP is fairly strong; therefore, there is most likely a benefit to targeting TSS removal in BMPs in order to lower TP stormwater loads.

Table 6.5: Data Results from "Dry weather" and "Storm" Sampling Event (Next 3 pages)

Notes:
1) ND = Non-detect.
2) Numbers in red exceed the accepted levels.
3) Blue color fields denote "dry weather" baseline sampling that was done in the spring before irrigation water was in the canals.
4) The samples shown on the white rows of the table were taken during a storm in August when irrigation water was in the canals.

Site No.	Description	Date	Time	Site Notes	BOD_5 (mg/l)	COD (mg/l)	Nitrate + Nitrite as N (mg/l)	Nitrate as N (mg/l)	Nitrite as N (mg/l)	Total Ammonia Nitrogen (NH_3) (mg/l)	Total Nitrogen (TN) (mg/l)	Total Kjeldahl Nitrogen (TKN) (mg/l)	Phosphate, Ortho as PO4 (mg/l)	Total Phosphorus (TP) (mg/l)	Oil & Grease (mg/l)	pH	Hardness (as $CaCO_3$) (mg/l)	Total Dissolved Solids (TDS) (mg/l)	Total Suspended Solids (TSS) (mg/l)	Cadmium, Total (mg/l)	Calcium, Total (mg/l)	Copper, Dissolved (mg/l)	Lead, Dissolved (mg/l)	Magnesium, Total (mg/l)	Zinc, Dissolved (mg/l)	E. coli (org/100 mL)	Conclusions
				Minimum Reporting Limit	5	10	0.1	0.1	0.02	0.2	0.3	1	0.01	0.01	5	0.5	1	5	4	0.005	0.2	0.005	0.02	0.2	0.01		
				Acceptable Limits	**5**			**4**		**5.73**			**0.05**	**0.05**		**6.5 - 9.0**		**1200**		**0.25**		**0.009**	**0.0025**		**0.12**	**126**	
1	**Swift Slough /Benson Canal** (Approximately 1700 W. 3000 N. at the diversion that splits water out of the canal down the Swift Slough)	4/1/08	10:30		**8**	ND		1.2	ND	ND	1.2	ND	**0.05**	**0.11**	ND	8.05	356	552	26	ND	58.9	ND	ND	50.7	ND	9	
1	**Swift Slough /Benson Canal**	8/31/08	18:40	Sample may have been taken before runoff reached this site.	ND	ND	0.1			ND	0.1	ND	0.04	0.02	ND	8.31	179	236	7	ND	40.1	ND	ND	19.2	ND	**370**	E. Coli is most likely coming from animal waste
2	**Logan Northwest Field Canal** (200 W. 1500 N. on the west side of 200 West Street)	4/1/08	12:04	Canals split into 2 channels again	**10**	ND		0.8	ND	ND	0.8	ND	0.02	**0.05**	ND	7.29	337	684	6	ND	45.7	ND	ND	54.2	ND	12	
2	**Logan Northwest Field Canal**	8/31/08	16:50	Before runoff reached site	ND	ND	ND			ND	ND	ND	ND	0.01	ND	8.45	186	204	ND	ND	44.5	ND	ND	18.1	ND	**190**	E. Coli is most likely coming from animal waste on the banks of the canal
2	**Logan Northwest Field Canal**	8/31/08	18:05	Time laps after rain had started	**21**	86	0.5			0.7	2.5	2	**0.81**	**0.16**	ND	8.07	158	238	46	ND	38.8	0.007	ND	14.9	0.03	**690**	E. Coli is most likely coming from animal waste on the banks of the canal
3	**Twin Canals** (400 E. 1500 N.)	3/31/08	16:15	Near some town homes, in front of Cache County Bible	ND	ND		2.1	ND	ND	2.1	ND	0.02	**0.05**	11	7.96	413	1020	7	ND	75.0	ND	ND	54.7	0.01	12	No limits exceeded
3	**Twin Canals**	8/31/08	17:15		ND	ND	0.1			ND	0.1	ND	ND	0.01	ND	8.34	183	208	ND	ND	44.6	ND	ND	17.5	ND	56	No limits exceeded

Notes:
1) ND = Non-detect.
2) Numbers in red exceed the accepted levels.
3) Blue color fields denote "dry weather" baseline sampling that was done in the spring before irrigation water was in the canals.
4) The samples shown on the white rows of the table were taken during a storm in August when irrigation water was in the canals.

Site No.	Description	Date	Time	Site Notes	BOD_5 (mg/l)	COD (mg/l)	Nitrate + Nitrite as N (mg/l)	Nitrate as N (mg/l)	Nitrite as N (mg/l)	Total Ammonia Nitrogen (NH_3) (mg/l)	Total Nitrogen (TN) (mg/l)	Total Kjeldahl Nitrogen (TKN) (mg/l)	Phosphate, Ortho as PO4 (mg/l)	Total Phosphorus (TP) (mg/l)	Oil & Grease (mg/l)	pH	Hardness (as $CaCO_3$) (mg/l)	Total Dissolved Solids (TDS) (mg/l)	Total Suspended Solids (TSS) (mg/l)	Cadmium, Total (mg/l)	Calcium, Total (mg/l)	Copper, Dissolved (mg/l)	Lead, Dissolved (mg/l)	Magnesium, Total (mg/l)	Zinc, Dissolved (mg/l)	E. coli (org/100 mL)	Conclusions
				Minimum Reporting Limit	5	10	0.1	0.1	0.02	0.2	0.3	1	0.01	0.01	5	0.5	1	5	4	0.005	0.2	0.005	0.02	0.2	0.01		
				Acceptable Limits	**5**			**4**		**5.73**			**0.05**	**0.05**		**6.5 - 9.0**		**1200**		**0.25**		**0.009**	**0.0025**		**0.12**	**126**	
4a	**Logan and Northern Canal A** (Approx 1000 E. 1400 N. on the canal a couple of hundred feet north of 1400 North Street by USU Poisonous Plant Research area)	3/31/08	15:05	An oil sheen was seen on the water surface during the collection of these samples	ND	28		2.1	ND	ND	2.1	ND	ND	**0.06**	9	7.96	356	**3620**	21	ND	66.5	ND	ND	46.0	ND	10	Oils are being added to the water somewhere up stream of this site.
4a	**Logan and Northern Canal A**	8/31/08	17:30		ND	15	0.2			ND	0.2	ND	0.03	0.06	ND	8.19	190	214	12	ND	47.2	ND	ND	17.6	ND	**230**	E. Coli is most likely coming from animal waste on the banks of the canal
4b	**Logan and Northern Canal B** (Concrete pipe that discharges into the Logan & Northern Canal from the southeast bank of the canal just north of 1400 North	8/31/08	17:45	A Sample was taken at this location during the storm because the flows from the pipe looked dirty.	**76**	373	0.9			1.6	7.9	7	**0.35**	**1.00**	ND	7.56	255	304	420	ND	68.1	**0.01**	ND	20.6	0.03	**490**	Entities that contribute storm water flows to this location are adding some pollutants.
5	**Crockett Diversion** (Approx.1000 E. 250 N. where the canal splits off the Logan River along the south side of River Hollow Park)	4/1/08	14:17	upstream of Logan City runoff contributions	ND	ND		0.1	ND	ND	0.1	ND	ND	ND	ND	8.42	193	204	ND	ND	47.2	ND	ND	18.3	ND	1	No limits exceeded.
5	**Crockett Diversion**	9/1/08	13:45	Upstream of Logan City runoff contributions	ND	ND	0.1			ND	0.1	ND	ND	0.01	ND	8.28	178	210	ND	ND	44.1	ND	ND	16.4	ND	57	No limits exceeded
6	**Spring Creek** (1200 S. Legrand Street on the downstream side of the culvert that crosses under 1200 South by Family	3/31/08	13:30	Upstream of Logan City runoff contributions	ND	ND		1.9	ND	ND	1.9	ND	ND	0.03	ND	7.85	341	886	8	ND	74.4	**0.009**	ND	37.6	ND	9	Upstream gas stations/cars may be contributing metals.

Notes:
1) ND = Non-detect.
2) Numbers in red exceed the accepted levels.
3) Blue color fields denote “dry weather” baseline sampling that was done in the spring before irrigation water was in the canals.
4) The samples shown on the white rows of the table were taken during a storm in August when irrigation water was in the canals.

Site No.	Description	Date	Time	Site Notes	BOD_5 (mg/l)	COD (mg/l)	Nitrate + Nitrite as N (mg/l)	Nitrate as N (mg/l)	Nitrite as N (mg/l)	Total Ammonia Nitrogen (NH_3) (mg/l)	Total Nitrogen (TN) (mg/l)	Total Kjeldahl Nitrogen (TKN) (mg/l)	Phosphate, Ortho as PO4 (mg/l)	Total Phosphorus (TP) (mg/l)	Oil & Grease (mg/l)	pH	Hardness (as $CaCO_3$) (mg/l)	Total Dissolved Solids (TDS) (mg/l)	Total Suspended Solids (TSS) (mg/l)	Cadmium, Total (mg/l)	Calcium, Total (mg/l)	Copper, Dissolved (mg/l)	Lead, Dissolved (mg/l)	Magnesium, Total (mg/l)	Zinc, Dissolved (mg/l)	E. coli (org/100 mL)	Conclusions
				Minimum Reporting Limit	5	10	0.1	0.1	0.02	0.2	0.3	1	0.01	0.01	5	0.5	1	5	4	0.005	0.2	0.005	0.02	0.2	0.01		
				Acceptable Limits	**5**			**4**		**5.73**			**0.05**	**0.05**		**6.5 - 9.0**		**1200**		**0.25**		**0.009**	**0.0025**		**0.12**	**126**	
	Dollar)																										
7a	**Blacksmith Fork South** (Approx. 200 W, 300 N Main Street, Nibley where the river crosses under HWY 165)	4/1/08	16:00	Upstream of Logan City runoff contributions. South Side of River. Jars were dipped for these samples	**7**	ND		0.2	ND	ND	0.2	ND	ND	0.01	ND	8.31	209	240	ND	ND	51.0	ND	ND	19.9	ND	3	Dip method may have influenced results. Not the same on the South side of the river as the North side of the river.
7b	**Blacksmith Fork North** (Approx. 200 W, 300 N Main Street, Nibley where the river crosses under HWY 165)	4/1/08	16:05	Upstream of Logan City runoff contributions. North side of River	ND	ND		0.2	ND	ND	0.2	ND	ND	0.01	ND	8.36	213	230	4	ND	51.8	ND	ND	20.2	ND	5	No limits exceeded
8	**Logan River** (2200 W. 600 South where river crosses 600 South)	4/2/08	11:36		**5**	ND		0.3	ND	ND	0.3	ND	ND	0.01	ND	8.16	217	260	4	ND	52.6	ND	ND	20.8	ND	39	Water leaving City has a BOD at acceptable levels. Other pollutants seem to have been diluted or dispersed.

Inventory of Construction Sites

Maintain Records of all Projects disturbing 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. These records are to be kept for five years or until construction is completed whichever is longer. Records to be filed Include: Site plan reviews, SWPPP, Inspection and enforcement actions, Stop work orders, warning letters, notices of violation, and other enforcement records.

Construction Site Name	**Location**	**Description**	**Contact person and number**	**Begin Date**	**End Date 5 year mark**	**Documentation filed**

Outfall Inventory

City:

Unique Identifier	Location of outfall	Description	Scheduled Dry Weather Screening	Actual Date Completed	Observations Made