

**The Municipal Separate Storm Sewer System  
(MS4)**

**NPDES Permit for  
Boise, Idaho  
(#IDS-02756-1)**

**The City of Boise  
Annual Report**

**Permit Year 9 of the Boise Area MS4  
Extended Permit  
(FY 2009)**

**October 1, 2008 - September 30, 2009**

Prepared by the City of Boise Public Works

November 20, 2009

# Report of Certification

**Document:**

Boise City FY2009 Annual Report, Boise Area MS4 Permit #IDS-02756-1

“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.”



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Paul Woods, P.E., Environmental Manager, Boise City Public Works

Date: 11/19/09

# Table of Contents

Report of Certification .....	ii
Table of Contents .....	iii
List of Tables .....	vi
List of Appendixes .....	vii
1. Introduction.....	1
2. Authorized Discharges.....	2
3. Conditions of Compliance .....	3
4. Annual Reporting Requirements.....	4
5. Participating City Departments.....	4
A. Implementation Status of the City of Boise Stormwater Management Program .....	5
Lead Entity and Joint Permit Conditions .....	5
Boise Area MS4 Permit Conditions Identified Under Part II.A and Part III.A.....	5
1. Structural Controls .....	6
1.1 Design Manuals .....	6
1.2 Operation and Maintenance Program .....	6
1.3 Inspection and Maintenance Record Keeping .....	7
1.4 Structural Controls Annual Report: Year 9 of the Extended Boise Permit ..	8
2. Floatables .....	10
2.1 Awareness and Local Authority Cooperation.....	10
2.2 Roadway Cleaning .....	10
2.3 Operation and Maintenance Program .....	11
2.4 Floatables Annual Report: Year 9 of the Extended Boise Permit .....	11
3. Areas of New Development and Significant Redevelopment .....	13
3.1 Design Practice Manuals .....	13
3.2 Project Review and Approval Procedures .....	13
3.3 Record Keeping .....	13
3.4 New Development and Significant Redevelopment Annual Report: Year 9 of the Extended Boise Permit .....	13
4. Roadways.....	14
4.1 Management Practices .....	14

4.2 Snow and Ice Control and Removal Annual Report: Year 9 of the Extended Boise Permit.....	14
5. Flood Management .....	15
5.1 Inventory of Structural Flood Control Devices .....	15
5.2 Flood Control Projects .....	15
5.3 Flood Management Projects Annual Report: Year 9 of the Extended Boise Permit.....	15
6. Pesticide, Herbicide, and Fertilizer Application .....	15
6.1 Application Management.....	16
6.2 Distribution of Education Materials .....	16
6.3 Outreach Method Identification.....	16
6.4 Pesticide, Herbicide, and Fertilizer Application Annual Report: Year 9 of the Extended Boise Permit.....	17
7. Illicit Discharge and Improper Disposal .....	17
7.1 Inspection and Enforcement .....	17
7.2 Stormwater Management and Discharge Control Ordinance Enforcement	17
7.3 Compliance Procedures .....	17
7.4 Illicit Discharge and Improper Disposal Annual Report: Year 9 of the Extended Boise Permit.....	18
8. Spill Prevention and Response.....	19
8.1 Spill Response Task Group.....	19
8.2 Spill Prevention and Response Annual Report: Year 9 of the Extended Boise Permit.....	19
9. Industrial and High-Risk Runoff .....	20
9.1 Database of Facilities .....	20
9.2 Inspection and Monitoring of High Risk Facilities .....	20
9.3 Education Materials .....	21
9.4 Inspection Program .....	21
9.5 Inspection Program Annual Report: Year 9 of the Extended Boise Permit ...	21
10. Construction Site Runoff .....	22
10.1 Construction Site Discharge Control Program .....	22
10.2 Inspection and Compliance.....	25
10.3 Database and Record Keeping .....	26

10.4 Construction Site Runoff Annual Report – Year 9 of the Extended Boise Permit.....	27
11. Public Education .....	29
11.1 Public Education Program .....	29
11.2 Public Education Annual Report: Year 9 of the Extended Boise Permit .	29
B. Boise Stormwater Management Program Status Review and Proposed Changes .....	36
1. City Stormwater Management Plan Evaluation .....	36
2. Proposed Minor Changes .....	37
C. Revisions to the Assessments of Controls or Fiscal Analysis.....	37
1. Assessments of Controls .....	37
2. Fiscal Analysis .....	38
D. Summary of Data Accumulated During FY2009 .....	39
E. Annual Expenditures and Budget for FY2009 .....	39
F. Compliance, Inspections, and other Education and Outreach Activities .....	39
G. Water Quality Improvement or Degradation.....	39
H. Storm Event Monitoring Summary .....	41
I. Other Information for Annual Report Submittal.....	41

# List of Tables

Table 1: Stormwater Structure Inspection and Maintenance Activities – FY2009 ...	9
Table 2: New Development and Significant Redevelopment Approvals, FY2009.	14
Table 3: Education Materials Distributed by Pretreatment – FY2009 .....	18
Table 4: Erosion and Sediment Control Plans Reviewed in FY2009 .....	23
Table 7: Erosion and Sediment Control Inspection Compliance Results – FY2009 ... .....	28
Table 8: Erosion and Sediment Control Stop Work Orders – FY2009 .....	29
Table 9: “Clean Water Works” Exhibit Venues – FY2009 .....	31
Table 10: Focused Information Development and Distribution – FY2009 .....	32
Table 11: Best Management Practices Demonstration Projects – FY2009 .....	32
Table 10: “Clean Water Works” Exhibit Venues – FY2008 - 09 .....	36
Table 11: Focused Information Development and Distribution – FY2009 .....	36
Table 12: Total Estimated Costs Associated with Boise Area MS4 Permit Implementation .....	38
Table 13: Total Permitted Permanent Stormwater Systems, FY2001 – FY2009 .....	40

# List of Appendixes

Appendix A. List of Acronyms.....	A-1
Appendix B. Boise Parks and Recreation Stormwater Structures Operation and Maintenance Plan, FY2009 .....	B-1
Appendix C. Boise Planning and Development Services – Community Housing Stormwater Structures Operation and Maintenance Plan, FY2009 ..	C-1
Appendix D. Boise Public Works – Government Buildings Stormwater Structures Operation and Maintenance Plan, FY2009 .....	D-1
Appendix E. Boise Public Works – Utility Maintenance & Engineering Floodway Conveyances, Ponds, and Dams Stormwater Structures Operation and Maintenance Plan, FY2009 .....	E-1
Appendix F. Boise Fire Department Stormwater Structures Operation and Maintenance Plan, FY2009.....	F-1
Appendix G. Library Department: Boise West Branch Public Library Storm Drain System and Operation and Maintenance Manual.....	G-1
Appendix H. Boise City Structures Program Activity Reports, FY2009 .....	H-1
Appendix I. Boise City Fixed Asset Inventory - FY2009 .....	I-1
Appendix J. Memorandum of Understanding with the Capital City Development Corporation, Downtown Boise Association, and Valley Regional Transit .....	J-1
Appendix K. Completed New Development and Redevelopment Drainage Permits, FY2009 .....	K-1
Appendix L. Stormwater Complaint Response Investigations (BCC 8-15), FY2009 . .....	L-1
Appendix M. Industrial & Commercial Facilities Inspected for Municipal Pretreatment and Stormwater Compliance, FY2009 .....	M-1
Appendix N. Boise Fire Department Spill Response Activity Summary for Hazardous Materials.....	N-1
Appendix O. ACCEM Monthly Reports and Meeting Minutes, FY2009 .....	O-2
Appendix P. Ada County Highway District and Boise City Industrial General Stormwater Permit Inspections 2009 Memorandum of Understanding and Scope of Work for FY2009 .....	P-1
Appendix Q. Erosion Control Project Ranking and Inspection Supplemental Information, FY2009 .....	Q-2
Appendix R. Public Education Summary, Boise Area MS4 Permit, FY2009 .....	R-1
Appendix S. Watershed Watch, Fall 2009 Summary.....	S-1
Appendix T. Public Education Products, FY2009 .....	T-1

# 1. Introduction

The first City of Boise and Garden City area Municipal Separate Storm Sewer System (MS4)<sup>1</sup> National Pollution Discharge Elimination System (NPDES) permit (IDS-02756-1) (Boise Area MS4 permit) was issued by the Environmental Protection Agency (EPA) on November 29, 2000 for a five-year (5) period. The Boise Area MS4 permit has been administratively extended in response to the timely submittal by the copermittees of a complete reapplication in 2004. This report summarizes permit implementation activities for the ninth year of the first permit cycle.

The Boise Area MS4 copermittees include the Ada County Highway District (ACHD) as the lead agency responsible for administering the permit, water quality monitoring, and industrial facility inspections; the City of Boise (City) as the lead agency for public education and outreach within the City of Boise; Garden City as the lead agency for public education and outreach within Garden City; and the following three “minor” copermittees: Boise State University (BSU), Ada County Drainage District 3 (DD3), and Idaho Transportation Department, District 3 (ITD3).

The Boise Area MS4 permit requires the City to implement an individual Stormwater Management Plan (SWMP), per 40CRF122.26, designed to limit to the “Maximum Extent Practicable” (MEP), the discharge of pollutants from the City’s jurisdiction to the MS4. The required elements for the joint and individual SWMPs are outlined in the issued permit – no separate SWMP document is required. The City’s individual SWMP requirements include best management practices (BMPs) including schedules of activities, prohibitions of practices, maintenance procedures, treatment requirements, operating procedures, education, training, and other management practices to control site runoff, spillage or leaks, waste disposal, and drainage from raw material storage; and, effective tracking and documentation of all associated activities.

In addition to the individual Boise Area MS4 permit requirements for Boise City, the Boise Area MS4 permit also requires the City to cooperate with the other Boise Area MS4 copermittees to implement a limited number of joint permit requirements. These joint permit requirements include an intergovernmental coordination agreement that specifies roles and responsibilities for permit administration, water quality monitoring, and permit-wide education and outreach.

Reporting requirements under the Boise Area MS4 permit includes an annual report for each year of the permit period to be submitted to the EPA and Idaho Department of Environmental Quality (IDEQ). Copies of all annual reports,

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<sup>1</sup> For a complete list of acronyms, please refer to Appendix A.

including monitoring summaries, are available to the public at the BSU Library, Boise City Hall, and Garden City Hall. Copies of the most recent annual reports are available through the copermittees' "Partners for Clean Water" web pages ([www.PartnersForCleanWater.org](http://www.PartnersForCleanWater.org)).

Information submitted in this report has been signed by a "duly authorized representative" (#IDS-02756-1, Part V.L.). Re-authorization by the current Mayor of Boise for the Director of Public Works, the City Engineer, and the Public Works Environmental Manager as having overall responsibility for environmental matters for the City was provided in the Boise City Annual Report for Year 7 of the Extended Permit (FY2007).

## 2. Authorized Discharges

The copermittees are to give timely notice to the EPA and IDEQ of any planned changes or additions that meet the definition of a "new source" per 40CFR122.29(b), or that significantly change the nature or increases the quantity of pollutants to the existing authorized discharges (#IDS-02756-1, Part V.N.1.).

The Boise Area MS4 permit authorizes all existing stormwater discharges (i.e., as of the effective date of the permit: November 29, 2000) to waters of the United States from the MS4, subject to the limitations of the permit. The Boise Area MS4 permit also authorizes the discharge of stormwater which has commingled with other flows including process wastewater and stormwater associated with industrial activity, provided each such flow is authorized under a separate NPDES permit.

Discharges other than stormwater are also regulated under the Boise Area MS4 permit. In addition to authorized stormwater discharges, the Boise Area MS4 permit requires an illicit discharge and improper disposal program to control or prohibit non-stormwater discharges from MS4s.<sup>2</sup> Sources of illicit discharges include, but are not limited to: sanitary wastewater; effluent from septic tanks; non-residential car wash, laundry, and industrial wastewaters; improper disposal of auto and household toxics, such as used motor oil and pesticides; and spills or other accidental pollutant discharges.

The Boise Area MS4 permit Part II.A.7 provides authorization for certain sources of non-stormwater (i.e., those considered de minimus) that are typical urban uses of storm drains. These authorized non-stormwater discharges are not prohibited under the permit unless they are identified as a significant source of pollutants. To minimize pollutant discharges to the MEP, the federally authorized non-stormwater urban uses of storm drains are still regulated through the Boise City

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<sup>2</sup> The basis for the illicit discharge control program permit requirement is found in Section 402(p)(3)(B) of the Clean Water Act (CWA), which states that NPDES permits issued to MS4s are to "effectively prohibit" non-stormwater discharges into the storm sewers.

Stormwater Management and Discharge Control Ordinance (BCC 8-15) (STW Ordinance) and the 2004 adopted Boise City Non-Stormwater Disposal Best Management Practices Handbook (Handbook). Copies of the 2004 STW Ordinance and Handbook were submitted in the FY2004 Boise City Annual Report.

Major outfalls owned or operated by the City are associated with the natural and modified foothills floodway conveyance systems, ponds, and dams; and the outfall located at the Boise Airport, monitored according to the Airport's Industrial Stormwater Pollution Prevention Plan. Properties owned or operated by the City that have discharges directly to surface water bodies include: a short road segment located within Julia Davis Park, a short road segment located within Ann Morrison Park, the parking areas of the Boise Library, Log Cabin, and Library Storage; Fire Department Training Station; property that is leased to the Gowen Field National Guard Training Center; and a section of the Boise Airport. All of these outfalls existed before the effective date of the Boise Area MS4 permit. Discharges are authorized according to the conditions of the current NPDES permit.

All other City properties either (1) retain and infiltrate an approximate 1-inch depth of stormwater per 24-hour precipitation event; (2) discharge stormwater under another NPDES permit (e.g., Lander Street Waste Water Treatment Plant & West Boise Waste Water Treatment Plant), or (3) discharge stormwater to another jurisdiction by their permission (drainage or irrigation entity, ACHD, state highway, etc.).

### 3. Conditions of Compliance

The Boise Area MS4 permit provides the following conditions of compliance:

1. Except as described in Part I.C.2., the copermittees' obligations to comply with the terms and conditions of this permit shall be joint and several.
2. Each copermittee shall be individually obligated (and the remaining copermittees shall not be obligated) to comply with those terms or conditions of this permit which:

relate exclusively to discharges from portions of the MS4 owned or operated solely by that copermittee;

are identified in this permit as being the obligation of a single, named copermittee;

have been identified in Table III.A or the Cooperative Agreement approved by EPA under Part II.F. of this permit as being the responsibility of that copermittee.

## 4. Annual Reporting Requirements

The copermittees are to prepare and submit to EPA and IDEQ an Annual Report. The Boise Area MS4 permit states that the Annual Report is to include, at a minimum:

- A. The status of implementing the components of the Storm Water Management Program that are established as Permit conditions;
- B. Proposed changes to the Storm Water Management Program<sup>3</sup>;
- C. Revisions, if necessary, to the assessments of controls and the fiscal analysis reported in the Part 2 of the Permit Application;
- D. A summary of the data that copermittees accumulated throughout the reporting year;
- E. Annual expenditures and budget for the year following each annual report;
- F. A summary describing the number and nature of enforcement actions, inspections, and public education programs, including copies of all educational materials distributed in conjunction with efforts to reduce pollutant discharges to the MS4;
- G. Identification of water quality improvements or degradation;
- H. A summary of all storm event monitoring conducted throughout the year in a format that includes the requirements of Section I.A as well as a signature of the person responsible for data quality, parameter name, monitoring location, unit of measurement, sample type, method used, and date of sample collection; and
- I. All other information required by this Permit to be submitted with the Annual Report.

This report summarizes activities implemented during the 9<sup>th</sup> year of the administratively extended Boise Area MS4 permit (#IDS-02756-1). Previous reports submitted contain additional program descriptions and documentation as required, and can be obtained by contacting the Boise City Stormwater Program.

## 5. Participating City Departments

City departments that share permit compliance responsibilities under the Boise Area MS4 permit include:

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<sup>3</sup> Any proposed changes are to be consistent with 40 CFR § 122.26(d)(2).

- ◆ Public Works (includes Government Buildings, Engineering, Operations, and Environment)
- ◆ Planning and Development Services (includes Community Housing and Development)
- ◆ Parks and Recreation
- ◆ Library
- ◆ Fire
- ◆ Airport

## A. Implementation Status of the City of Boise Stormwater Management Program

*“Each copermitee shall implement a Stormwater Management Program (SWMP) designed to limit, to the Maximum Extent Practicable (MEP), the discharge of pollutants to and from that portion of the MS4 owned, operated, or utilized by that copermitee. Each copermitee shall implement the SWMP in accordance with the schedule contained in Part II, as summarized in Table IIIA, of the permit.”*  
 (Boise Area MS4 permit #IDS-02756-1, EPA 2000)

### **Lead Entity and Joint Permit Conditions**

The City acts as a lead agency under the Boise Area MS4 permit for stormwater public education and outreach. The City also has legal authority for criminal misdemeanor enforcement for Boise City Code (BCC) within the City’s jurisdictions. This authority for the STW Ordinance (BCC 8-15) has been extended to interested copermitees under an enforcement agreement (submitted with the FY2005 Boise Area MS4 Annual Report). Additional programmatic enforcement controls are contained the City’s Construction Site Erosion and Sediment Control (E&S Ordinance), BCC 8-17. More detailed information on the implementation status of these SWMP elements is included in the individual Boise City permit conditions sections below.

### **Boise Area MS4 Permit Conditions Identified Under Part II.A and Part III.A**

*“Each copermitee shall be individually obligated (and the remaining copermitees not be obligated) to comply with those terms or conditions of this permit implement which:*

- a. relate exclusively to discharges from portions of the MS4 owner or operated solely by that copermitee;*
- b. are identified in this permit as being the obligation of a single, named copermitee; or,*

- c. *have been identified in Table III.A or the Cooperative Agreement approved by EPA under Part II.F of this permit as being the responsibility of that copermitttee.”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000)

## **1. Structural Controls**

*“Each copermitttee shall operate and maintain the stormwater structural controls for which it is the owner or operator, in a manner so as to reduce the discharge of pollutants to the MEP.”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000)

### 1.1 Design Manuals

The Boise Area MS4 permit specifies the City is to finalize and implement design manuals that incorporate BMPs and operation and maintenance criteria for all existing and future structural controls. As was reported in previous annual reports, this requirement was officially met May 2000 when the City Council adopted the revised STW Ordinance (BCC 8-15). The STW Ordinance requires, through reference, that new development and significant redevelopment building permits issued by City comply with the Stormwater Management: A Design Manual (Design Manual). The Design Manual establishes the stormwater management practices for structural controls, including long term operation and maintenance requirements within the City. The Design Manual requires operation and maintenance (O&M) plans to be developed according to the guidance included in Stormwater Operation and Maintenance: A Resource Guide (O&M Guide).

A Professional Advisory Group (PAG) process to review and recommend minor revisions to the 2000 Design Manual was initiated during FY2003. The revised Manual and associated updates to the STW Ordinance were officially approved by Boise City Council on July 31, 2007. Copies of the revised Design Manual and STW Ordinance were submitted to EPA Region 10 in July 2007 and with the FY2007 Boise City Annual Report.

### 1.2 Operation and Maintenance Program

Stormwater structure operation and maintenance for City facilities are conducted according to each facility’s operation and maintenance plan (O&M Plan). Updates to these plans are requested when the stormwater structures inventory changes. Numerous O&M Plans for stormwater structures have been submitted in previous City Annual Reports and are on file at City Hall. Only those plans that have been updated since last year are included in this year’s report. Updated O&M Plans provided with this report include:

Appendix B: Boise Parks and Recreation (BPR) Stormwater Structures  
Operation and Maintenance Plan, FY2009

Appendix C: Boise Planning and Development Services - Community Housing and Development (PDS - HCD) Stormwater Structures Operation and Maintenance Plan, FY2009

Appendix D: Boise Public Works - Government Buildings (PW - GB) Stormwater Structures Operation and Maintenance Plan, FY2009

Appendix E: Boise Public Works – Utility Maintenance and Engineering (PW – UM & ENG) Floodway Conveyances Stormwater Structures Operation and Maintenance Plan, FY2009

Appendix F: Fire Department Stormwater Structures Operation and Maintenance Plan, FY2009

Appendix G: Library Department: Boise West Branch Public Library Storm Drain System and Operation and Maintenance Manual

The new West Branch Public Library's O&M Plan (Appendix G) is planned to be integrated into the current Main Branch Public Library O&M Plan during FY2010.

### 1.3 Inspection and Maintenance Record Keeping

It is the responsibility of each<sup>4</sup> City department and division charged with property maintenance and management to:

- develop the necessary O&M Plans
- update the O&M Plans when either the inventory or operations change
- inspect each stormwater structure according to the current O&M Plan
- maintain each stormwater structure and properly dispose of sediments according to the O&M Plan and guidance set forth in the O&M Guide
- ensure the facility waste management practices are conducted according to the STW Ordinance and Handbook
- maintain an internal record-keeping system to track inspections and maintenance for those facilities operated by the City<sup>5</sup>

Current record keeping by each of these departments follows the procedures identified within the facility's O&M Plan. Annual activity summary reports are completed by each responsible department to provide a comprehensive list of

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<sup>4</sup> The only exception to the inspection and maintenance tracking aspects of this program is for the wastewater treatment and biosolids land application facilities. The waste water treatment facilities route the stormwater from all impervious surfaces through the treatment plant, where it is then treated and discharged according to the West Boise and Lander wastewater NPDES permits. The biosolids land application activities are addressed under the Lander and West Boise waste water NPDES permits.

<sup>5</sup> Structures and facilities included in this program include both offsite and onsite stormwater management.

information required by the Boise Area MS4 permit. These activity summaries are provided in Appendix H.

An inventory map with all of the major outfalls for the foothills floodway conveyances was provided in the FY2008 annual report. A city-wide “fixed assets” property inventory, current as of the end of FY2009 is provided in Appendix I.

#### 1.4 Structural Controls Annual Report: Year 9 of the Extended Boise Permit

City owned and operated stormwater facilities are listed in each department’s O&M Plan. Table 1 is a summary of the activities conducted under these plans. Descriptions of current facility management practices are included in each O&M Plan.

Table 1: Stormwater Structure Inspection and Maintenance Activities – FY2009

<b>Department</b>	<b>Inspections</b>	<b>Maintenance</b>	<b>Staff Cleaning Hours</b>
BPR <sup>6</sup>	782	304	258
Library <sup>7</sup>	154	11	235
PDS – CHD <sup>8</sup>	38	13	daily by 4 FTE
Fire <sup>9</sup>	18	1	by on site personnel
Airport <sup>10</sup>	1	992	daily, weekly, monthly
PW – UM & ENG <sup>11</sup>	6	6	1303
PW – GB <sup>12</sup>	9	3	327.5

<sup>6</sup> Boise Parks and Recreation (BPR) inspected 391 stormwater facilities twice for a total of 782 inspections. In addition to the 258 hours of staff time spent inspecting and cleaning; numerous volunteer events and efforts for litter control were implemented. See Appendix H for a more complete description of these efforts.

<sup>7</sup> The Library has four facilities, with a total of 16 drainage structures. The downtown facilities include the Main Library (8), Log Cabin (1), and Library Storage (2). The West Branch Library is at Cole & Ustick (4). The 11 structures at the three downtown facilities were inspected 14 times, and were all vacuumed once during FY2009.

<sup>8</sup> Community Housing & Development inspects and cleans 22 buildings & associated outdoor properties for a total of 278 rental and non-rental units, on a semi-annual basis.

<sup>9</sup> The Fire Department has 18 facilities. Fire’s and PW- GB’s facility maintenance responsibilities were split during FY2009. Facility inventories are being reviewed for accuracy and completeness by the Drainage Plan Coordinator. Each facility had one inspection during FY2009, and Fire Station #14 is under review for maintenance and possible renovation.

<sup>10</sup> The Boise Airport’s Operation and Maintenance Program requires updating in order to address department-wide responsibilities under the Boise Area MS4 permit. The facilities have daily litter patrol, weekly taxiway and runway sweeping, and monthly apron and ram area sweeping.

<sup>11</sup> There are five (5) conveyances (Hulls, Crane, Sand, Stewart, and Cottonwood) and a Utility Maintenance (UM) facility. The floodway conveyances are inspected year round, with increased frequency during high flow periods (see Hansen Work Orders); the 8 ponds and 4 dams are inspected once per years, with the exception of Cottonwood which is inspected twice; the three Utility Maintenance facility swales are inspected twice per year.

<sup>12</sup> The downtown City Hall #1, City Hall #2, and the 520 West Idaho facilities were maintained using the listed hours spent cleaning. No vacuuming or renovation-level maintenance was performed. Weed removal at four properties is listed in the Activity Summary (Appendix H). Fire’s and PW – GB’s maintenance responsibilities were split during FY2009. Facility inventories are being reviewed for accuracy and completeness by the Drainage Plan Coordinator. Each facility had one inspection during FY2009.

## **2. Floatables**

*“The copermittees shall ensure the establishment of a program to reduce the discharge of floatables (e.g. litter and other human generated solid refuse).”*  
(Boise Area MS4 permit #IDS-02756-1, EPA 2000)

### 2.1 Awareness and Local Authority Cooperation

Litter control and recycling are incorporated into the City Solid Waste Program, Special Events Planning Committee efforts, each City facility’s O&M plan, as well as through the efforts by Boise RiverSweep and the public education advertising campaign featuring the Partners for Clean Water “spokesfish” Eddy Trout.

The Boise City Solid Waste Ordinance (BCC 8-10) requirements include abatement of nuisances, including littering. BCC 8-10 provides for enforcement authority and oversight for trash and recycling storage, collection, and hauling services to reduce litter throughout the city. Most compliance and enforcement activities are conducted by the City’s Planning and Development Services (PDS) Code Enforcement Division. Additional support by the Solid Waste Program is provided to the downtown business community for additional litter collection and recycling efforts.

The Boise City Special Events Planning Committee and agency partners also seek litter control via compliance with the Boise Special Events Ordinance (BCC 11-5).

Boise Parks and Recreation (BPR) litter pick-up service description for developed park facilities includes collecting scattered debris, emptying of trash receptacle, lining them with recyclable plastic can liners, and directing the placement of trash bins provided by a Boise City contractor. BPR’s goal is to maintain a clean, safe and visually acceptable park for all users through staff and coordinated volunteer efforts.

Vacant lots are visited periodically in order to ensure they have not been subject to illegal dumping, etc. More frequent inspections are planned for FY10 and beyond of all sites with controls identified as “minimizing directly connected impervious areas,” including vacant lots. These sites currently identified in the Operation & Maintenance Plan as Reserves/Open Space, Undeveloped Properties and Developed properties.

### 2.2 Roadway Cleaning

City owned or operated roads are located on lands managed by BPR. Basic park maintenance covers a number of items related to stormwater systems. Cleaning of hard surfaces and turf areas is completed approximately once a week during the growing season. This program keeps the parks suitable for public use. These services also reduce the amount of organic and inorganic materials that enter the

storm water systems. Additionally during the weekly surface maintenance, staff also makes sure the storm water systems are functioning properly. Trash pickup is also coordinated at each park site and varies from twice a day in some heavily used facilities, to once or twice a week at sites with less intense use. This park maintenance schedule is tracked using the department's time and labor tracking system and the annual work plan. Both of these supporting documents are available upon request.

### 2.3 Operation and Maintenance Program

Each City facility with either a street or parking lot is swept regularly as debris and leaves accumulate. Garbage cans are posted and emptied regularly in all public areas as necessary in order to maintain a clean, safe and visually acceptable public areas and parks.

### 2.4 Floatables Annual Report: Year 9 of the Extended Boise Permit

Litter control and recycling are incorporated into the City Solid Waste Program, Special Events Planning Committee efforts, each City facility's O&M plan, as well as through the efforts by Boise RiverSweep and the public education advertising campaign featuring the Partners for Clean Water spokesfish Eddy Trout.

Litter control enforcement efforts and cooperation:

- The Boise City Solid Waste Ordinance (BCC 8-10) requirements include abatement of nuisances, including littering. BCC 8-10 provides for enforcement authority and oversight for trash and recycling storage, collection, and hauling services to reduce litter throughout the city. Most compliance and enforcement activities are conducted by the City's Planning and Development Services (PDS) Zoning Enforcement Division. Additional support by the Solid Waste Program is provided to the downtown business community for litter collection and recycling efforts.
- The Boise City Special Events Planning Committee and agency partners also seek litter control via compliance with the Boise Special Events Ordinance (BCC 11-5). The Public Works Department's updates to the Special Events Manual were completed in FY2009. These sections address trash and litter control requirements for large special events held within Boise City. Please see the City's web site:

[http://www.cityofboise.org/Departments/City\\_Clerk/SpecialEvents/index.aspx](http://www.cityofboise.org/Departments/City_Clerk/SpecialEvents/index.aspx)

- The Boise City Solid Waste Enterprise Fund provided \$103,000 in FY2009 to the City's Zoning Enforcement Division to assist with the enforcement of BCC 8-10.

- Boise City provided \$18,000 supplemental support for additional downtown Boise trash collection to the Downtown Boise Association.
- In FY2009 the City completed an updated Memorandum of Understanding with the Capital City Development Corporation, Downtown Boise Association, and Valley Regional Transit for management of downtown streetscape, including litter control coordination (Appendix J).
- BPR Volunteer Services
  - The Adopt the River Program is the clean-up of the Boise River and Greenbelt Pathway on a regularly scheduled / as needed basis. In FY2009, services were provided by 20 concerned organizations of the Boise Community to ensure the natural and aesthetic atmosphere of the prime recreational area. BPR ensures each of the ½ to 2/3 of a mile sections has an organization identified for cleaning and maintaining their particular section. BPR maintains the program's map of participants to ensure that it is up-to-date. On an annual basis each organization is contacted to determine whether the organization wishes to renew its section or pass it onto another interested organization. Plastic bags for picking up litter, and disposing of the collected litter are the responsibility of the "adopting" organization.
  - Boise RiverSweep - In FY2009, Boise Parks & Recreation, in partnership with Ada County, Boise WaterShed Exhibits, Inc., Boise Public Works, City of Caldwell, Idaho River United, Partners for Clean Water, and the Idaho Department of Fish & Game held the eighth annual Boise RiverSweep. The mission of the event is two fold. The first is to pick up all the trash that accumulates along the banks and in the channel of the Boise River, during the year heavy use summer months, stretching from Barber Park to the confluence of the Snake River; and second, to create awareness of this problem to the citizens of Boise. This year, over 550 volunteers picked up cans, bottles, and the other debris with an estimated total of 18 yards trash, 74 pounds aluminum, and 36 pounds plastic. And, for the first time in the history of Boise RiverSweep, the planning partners put additional resources into developing a marketing campaign entitled 'Litter, There's No Excuse.' The radio and TV PSA's can be found on the Boise RiverSweep web site at [www.boiseriversweep.org](http://www.boiseriversweep.org). A summary of these marketing efforts are presented in Section 11.
  - Other Trash Pick-up Efforts - BPR supplements the Adopt the Greenbelt Program and Boise Riversweep by seeking other volunteer groups to pick up trash along the Boise River and in the Reserves. In FY2009 we had a total of 45 volunteers contribute 102 hours helping the Department keep these areas clean.

### **3. Areas of New Development and Significant Redevelopment**

*“Copermittees shall adopt and utilize a comprehensive master planning process to develop, implement, and enforce controls to reduce the discharge of pollutants to the MEP from areas of new development and significant re-development.”*  
(Boise Area MS4 permit #IDS-02756-1, EPA 2000)

#### 3.1 Design Practice Manuals

As was reported in previous reports, this requirement was officially met May 2000 when the City Council adopted the revised STW Ordinance (BCC 8-15). The STW Ordinance requires, through reference, compliance with the Design Manual. The Design Manual, updated during FY2007, establishes the design practices used for all City-permitted new development and significant re-development projects. The Design Manual further requires operation and maintenance plans to be developed according to the guidance included in O&M Guide.

#### 3.2 Project Review and Approval Procedures

The City issues building permits for commercial and industrial development, as well as residential and subdivision development in areas identified as hillside based on the City Hillside and Foothill Development Ordinance (BCC 8-16).

All new building permits issued by the City are reviewed for compliance with the Design Manual, including the availability of the facility’s Stormwater O&M Plan. A number of checklists are provided through the City’s drainage plan review web site including: the Idaho Department of Water Resources (IDWR) Shallow Injection Well Inventory Form; a Drainage Plan Checklist; and a Final Submittal Checklist. Building permit compliance review inspections during and after construction are conducted. These inspections include a determination that the facility’s stormwater structures have been constructed according to the approved permit issued.

#### 3.3 Record Keeping

A permit tracking database is implemented for permit review, approval, and implementation. This database allows the City to track the progress of permit approvals and construction, and provides annual program summaries for annual reporting requirements. An example output from this database was provided in the FY2001 City Annual Report.

#### 3.4 New Development and Significant Redevelopment Annual Report: Year 9 of the Extended Boise Permit

Table 2: New Development and Significant Redevelopment Approvals, FY2009

<b>Permit Type</b>	<b>FY08 Total</b>
Commercial and Industrial	73
Hillside Residential	23
<b>Total</b>	<b>96</b>

In addition to these permit approvals, a total of 58 stormwater drainage facility projects were completed in FY2009 based on the final inspection date or the signed permanent occupancy date. Drainage facility construction and installation includes varying amounts of building inspection reviews to ensure compliance with the Design Manual standards. All projects completed in FY2009, along with their inspections, are provided in Appendix K.

#### **4. Roadways**

*“Each copermitttee shall operate and maintain public streets, roads, and highways under its jurisdiction and for which it has authority in a manner so as to reduce to the MEP the discharge of pollutants including those related to deicing or sanding activities.”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000)

##### 4.1 Management Practices

Please refer to Section 2.2 “Roadway Cleaning.”

##### 4.2 Snow and Ice Control and Removal Annual Report: Year 9 of the Extended Boise Permit

Each department responsible for property management uses both mechanical and chemical snow and ice removal methods. Alternatives to sodium chloride based de-icers have been purchased and are utilized at all City facilities. All chemicals and equipment involved in snow and ice removal are stored in covered and locked locations. Liquid magnesium chloride applied with spray truck and granular ice melt spread with a walk behind broadcast spreader (used for fertilizing) or a hand shaker in small areas.

Two of the greatest users of de-icing products are the Boise Airport and BPR. Materials used by these and other Boise City departments are reported in Activity Summaries provided in Appendix H.

## **5. Flood Management**

*“Each copermitttee shall ensure that any flood management projects it undertakes include an assessment of the impacts on receiving water quality. Copermitttees shall also evaluate the feasibility of retro-fitting existing structural flood control devices to provide additional pollutant removal from stormwater.” (Boise Area MS4 permit #IDS-02756-1, EPA 2000)*

### 5.1 Inventory of Structural Flood Control Devices

The City owned and/or operated floodway system inventory and O&M plans were submitted in the first City Annual Report (FY2001). All City facility O&M plans are to be updated as additional facilities have been acquired or built.

An inventory map with all of the major outfalls for the foothills floodway conveyances was provided in the FY2008 annual report. A city-wide “fixed assets” property inventory, current as of the end of FY2009 is provided in Appendix I.

### 5.2 Flood Control Projects

A design review of the Hulls Gulch conveyance system was initiated in FY2006. Final design is expected to be completed in FY2010 with conveyance reconstruction beginning in FY 2009 and finishing in FY2010. Final design is expected to be consistent with the City's goal to reduce and/or eliminate connections from urban areas (e.g., ACHD right-of-way) to the flood conveyance facility where feasible.

### 5.3 Flood Management Projects Annual Report: Year 9 of the Extended Boise Permit

Reducing the risk of flooding and ensuring the floodway conveyances are being operated and maintained as intended under their designs is part of the ongoing City flood management program. Coarse material retention within the dry- and wet-pond systems is applied throughout the conveyance systems. Other than the typical hillside and foothill related sediment loads, the primary source of additional pollutants appears to be pet waste based on the recreation nature of the lands adjacent to many of the floodway conveyances. BPR efforts to control pet waste are outlined in the Activity Summary (Appendix H).

## **6. Pesticide, Herbicide, and Fertilizer Application**

*“Copermitttees shall implement controls to reduce to the MEP the discharge of pollutants related to the application of pesticides, herbicides, and fertilizers applied by the copermitttees’ employees or contractors to public right-of-way, parks, and other municipal facilities. Copermitttees...shall implement...education activities, permits, certifications, and other measures to reduce the discharge of pollutants related to application and distribution of pesticides, herbicides, and*

*fertilizers by commercial and wholesale distributors and applicators...*” within their jurisdiction (Boise Area MS4 permit #IDS-02756-1, EPA 2000).

### 6.1 Application Management

The Boise Area MS4 permit requires the City to develop a list of regionally appropriate landscaping plants and turf with recommended fertilizer application rates. A copy of “Stormwater Plant Materials: A Resource Guide” was submitted with the first City Annual Report (i.e., FY2001).

The City continues to coordinate with the Department of Agriculture in the Idaho commercial applicators licensing requirements and outreach. A link to these programs is included on the Partners for Clean Water web site under “Compliance Corner.”

For City facilities, BPR’s Horticulture Unit supports a well-recognized Integrated Pest Management (IPM) program. The current number of certified applicators employed by BPR is 31.

The Library has taken advantage of the services offered by BPR’s Horticulture Unit for most of their weed control and landscaping needs. However, both the Library and facility operators other than BPR individually implement grounds maintenance practices that include herbicide and/or fertilizer applications. Controls are applied during these applications to comply with the Non-Stormwater BMP Waste Disposal Handbook.

### 6.2 Distribution of Education Materials

Early efforts to conduct educational outreach to local contract applicators have been documented in previous City reports. Required public education and outreach efforts have been coordinated as identified in the final Boise Stormwater Public Education and Outreach Plan, including a general awareness advertising program.

“Eddy Approved – Less Toxic Pest Controls that Work!” fact sheets continued to be distributed during FY2009. An additional 5 displays were also produced so that they would be able to be set up at more public locations. A full program update is included in Section 11. The fact sheets are been posted on the Partners for Clean Water web site ([www.PartnersForCleanWater.org](http://www.PartnersForCleanWater.org)).

### 6.3 Outreach Method Identification

The City continues to coordinate with the Department of Agriculture for the Idaho commercial applicators licensing requirements and outreach. A link to these programs is included on the Partners for Clean Water web site under “Compliance Corner.” Additional outreach to residential audiences is being addressed through the “Eddy Approved” fact sheets and Partners for Clean Water web site.

#### 6.4 Pesticide, Herbicide, and Fertilizer Application Annual Report: Year 9 of the Extended Boise Permit

Following the FY2007 pilot program based on the “Our Water/Our World” fact sheets, the Partners for Clean Water developed 10 fact sheets for distribution in Idaho via the Eddy Trout displays located at government offices (Idaho Department of Agriculture), libraries, and interested retailers (e.g., Zamzows and WalMart). Approximately 5000 fact sheets were distributed through these displays during FY2009.

### **7. Illicit Discharge and Improper Disposal**

*“Each copermitttee shall implement an ongoing program to detect and remove (or require the discharger to the MS4 to remove or obtain a separate NPDES permit for) illicit discharges and improper disposal into the MS4...”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000).

The City also has legal authority for civil and criminal misdemeanor enforcement for Boise City Code (BCC) within the City’s jurisdictions. This authority for the STW Ordinance (BCC 8-15) has been extended to interested copermitttees under an enforcement agreement (submitted with the FY2005 Boise Area MS4 Annual Report). Additional programmatic enforcement controls are contained the City’s Construction Site Erosion and Sediment Control (E&S Ordinance), BCC 8-17. The Boise City Pretreatment Program (Pretreatment) provides services for complaint investigations for illicit discharges and improper disposal.

#### 7.1 Inspection and Enforcement

Pretreatment provides services that satisfy some of the permit requirements as set out in Part II.A.7 *“Illicit Discharges and Improper Disposal.”* The City Pretreatment staff continues to implement a compliance assistance program as described in the updated Stormwater Program Compliance Assistance Guidance provided with the FY2006 annual report.

#### 7.2 Stormwater Management and Discharge Control Ordinance Enforcement

The City and other copermitttees are responsible for responding and conducting compliance assistance to minimize the amount of pollutants entering the Boise Area MS4. Each permitted agency is to respond and investigate situations that may impact their jurisdiction. Pretreatment has the compliance assistance responsibility within City jurisdiction for STW Ordinance. Investigations are conducted when an incident is a possible violation occurs on City, residential, or commercial/industrial property.

#### 7.3 Compliance Procedures

An updated Stormwater Program Compliance Assistance Guidance was provided with the FY2006 annual report.

#### 7.4 Illicit Discharge and Improper Disposal Annual Report: Year 9 of the Extended Boise Permit

During the FY2009 reporting period Pretreatment staff conducted 57 pretreatment inspections at industrial and commercial facilities. These inspections also included the stormwater review component to determine facility compliance with STW Ordinance (BCC 8-15). No issues were identified at any of the sites. The facility name, date of inspection, and applicable SIC are listed in Appendix L, along with a map of the Boise Pretreatment service area.

A summary of the 36 complaint responses investigations conducted by Pretreatment during FY2009 is included in Appendix M. Each of the complaints notices received were resolved during FY2009.

Education materials distributed during these and other Pretreatment outreach activities are provided in Table 3.

Table 3: Education Materials Distributed by Pretreatment – FY2009

<b>Pamphlet</b>	<b>Number Distributed</b>
Non-Stormwater Disposal Handbook	46
Boise Storm Water Ordinance (brochure)	6
Stormwater Regulations (Title 8)	15
Commercial Vehicle & Equipment Washing Fact Sheet	5
Have you Seen this Fish?	1
River Care Tips	1
Sidewalk & Concrete BMPs	3
Stormwater and You (Restaurants)	2
<b>Total for FY2009</b>	<b>79</b>

The Boise Fire Department guidance, “Fire Fighting Best Management Practices for Urban Runoff Management,” was updated in FY2008. General stormwater pollution prevention training materials were made available during FY2009.

## **8. Spill Prevention and Response**

*“Copermittees shall implement a program to prevent, contain, and respond to spills that may discharge into the MS4...”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000).

### 8.1 Spill Response Task Group

City Hazardous Materials Coordinator Deputy Chief and Battalion Chief manage the Hazardous Materials team. Boise Fire Department Engine 12 performs additional duty as the Hazardous Materials team. All team members are trained as Hazardous Materials Technicians and have additional training in the chemistry of hazardous materials. Many of the Team members have specialist training in areas such as Transportation Emergencies, Bomb Disposal, and Weapons of Mass Destruction incidents.

The Hazardous Materials team responds to all Hazardous Materials incidents in the City, and cooperates with the State of Idaho to provide response in eleven counties of Southwest Idaho. The Hazardous Materials team participates in planning and preparedness efforts in cooperation with numerous agencies. The team is represented on the Ada County Local Emergency Planning Committee, the Idaho Hazardous Materials Plan Update Committee, and a Spill Response Planning Group affiliated with Lucky Peak dam and power plant.

### 8.2 Spill Prevention and Response Annual Report: Year 9 of the Extended Boise Permit

The Boise City certified 30 personnel as Hazardous Materials Technicians. Block training and emergency response flow charts used by the Fire Department have not been updated from those submitted in the FY2007 Boise Annual Report.

Local spill response activities are tracked through the Boise Fire Department’s “FireHouse” database reporting system, with additional HazMat-specific paperwork. Regional responses are reported through the Idaho State BHS. The FY2009 summary of spills and other incidents involving hazardous materials is included in Appendix N.

The 2006 update to the Ada County Hazardous Materials/Radiological Incident Contingency Plan (i.e., the cooperative agreement that identifies the roles and responsibilities for hazardous spill response in Ada County) was provided in the FY2007 Boise City Annual Report.

Monthly activity reports and meetings notes demonstrating the City cooperation with the Ada County Center for Emergency Management (ACCEM) are included in Appendix O. The monthly reports summarize all activities conducted by ACCEM staff. Meeting notes drafted by ACCEM staff contain a list of attendees, including those City staff in attendance. All of the activities, including those that are hazardous material spill response related, are grouped into the monthly

reports. Meeting notes covering the planning efforts for coordinated emergency response to a variety of situations have been included as well. None of these meetings have specifically updated or changed the Hazardous Materials Contingency Plan coordination.

## **9. Industrial and High-Risk Runoff**

*“Co-permittees shall implement a program to identify, monitor, and control pollutants in stormwater discharges to the MS4 from...”* industrial and high-risk facilities (Boise Area MS4 permit #IDS-02756-1, EPA 2000).

Pretreatment provides services for inspection of commercial, industrial and high risk facilities the Boise Area MS4 permit within the Boise Pretreatment Service Area.<sup>13</sup>

### 9.1 Database of Facilities

Pretreatment inspection tracking data for FY2009 are contained in the Boise City Pretreatment database.

In March of 2005, a stormwater review component was added to the Pretreatment database and facility Initial Inspection checklist to provide for collecting and documenting specific information such as: type of on-site detention, stormwater system maintenance, connection to MS4, presence of outdoor material storage and outdoor processes generating wastewater.

In FY2009, a new database was developed based on the existing Pretreatment database. This new database is specifically to track inspections of facilities that may be subject to MSGP (Multi-Sector General Permit). It was developed by Pretreatment staff under contract with ACHD.

### 9.2 Inspection and Monitoring of High Risk Facilities

The Boise Area MS4 permit Part II.A.9 and Part III.A “Industrial & High Risk Runoff, identifies activities to be conducted by the Co-permittees with ACHD identified as the lead agency. Whenever possible, the inspection of high risk facilities should be done in conjunction with pretreatment inspections conducted by Boise City staff. Under a now expired 2002 MOU, Boise Pretreatment Program staff conducted Industrial and High Risk inspections for ACHD at thirty Eight (38) Multi-Sector General Permit (MSGP) facilities. The inspection work product was submitted to ACHD in late 2002.

ACHD and Boise City signed an Interagency Agreement in April, 2009, and developed a Scope of Work (SOW) for work to be completed by Boise City

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<sup>13</sup> Other sewer districts located within the Boise Area MS4 permit boundary include the Bench, Northwest, West Boise, and the Garden City sewer districts.

Pretreatment personnel for the FY2009 (Appendix P). The FY2009 SOW laid out tasks for developing the new MSGP database, as well as a list of facilities that were priorities for inspection.

The new MSGP database identifies 157 facilities within the Boise City service area that may be subject to MSGP requirements (65 FR 64746). Most have been inspected for compliance with BCC 8-15.

Twenty-one (21) inspections were performed in FY2009 pursuant to the SOW. Results of the inspection observations include: sixteen (16) facilities may not be eligible for coverage under the MSGP; two (2) facilities appear to be eligible for No Exposure certification; and three (3) facilities appear to be eligible for coverage under the MSGP. Of these 21 facilities inspected, six (6) facilities have obtained coverage under the 2008 MSGP, one (1) of which is a No Exposure certification. Three (3) facilities were recommended to assess their responsibility to file for MSGP, one (1) of those to possibly file a No Exposure certification.

Meanwhile, City Pretreatment staff continues to evaluate all facilities within its jurisdiction for compliance with the stormwater ordinance Title 8, Chapter 15.

### 9.3 Education Materials

In 2001 ACHD provided an education materials “wish list” to Boise City. The education materials suggested dealt solely with industrial and commercial waste management, vehicle management, and property management practices. Since the Pretreatment database was modified for tracking purposes (i.e., March 2005) Pretreatment has distributed over 860 pieces of stormwater related educational materials during Pretreatment inspections, include the Boise City Non-Stormwater Disposal BMP Handbook (formerly the Commercial and Industrial Handbook). The number and type of information materials distributed during FY2009 is provided in Table 3.

### 9.4 Inspection Program

The Boise Area MS4 permit states that the copermitted shall develop, formalize, and implement an inspection program of high risk industrial and other commercial facilities. The FY2009 SOW laid out tasks for developing the new MSGP database, as well as a list of facilities that were priorities for inspection. Additional industrial inspection program information is contained in the March 2000 ACHD NPDES Industrial Stormwater Monitoring Program Inspection and Monitoring Procedures Manual, submitted with the FY2001 Boise MS4 Area NPDES permit annual report.

### 9.5 Inspection Program Annual Report: Year 9 of the Extended Boise Permit

Please refer to the ACHD Boise Area MS4 Annual Report for FY2009 for the industrial and high risk runoff inspection program and other associated permit compliance activities. Boise City continues to respond to ACHD review, program

development, and implementation requests for Industrial and High Risk Runoff Program.

## **10. Construction Site Runoff**

*“Copermittees shall develop and implement a program to reduce to the MEP the discharge of pollutants from construction sites...”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000).

### 10.1 Construction Site Discharge Control Program

The City of Boise construction site discharge control program employs 2 FTE’s, including a full time manager, (Certified Professional in Erosion and Sediment Control-CPESC ) who have primary responsibility for implementing the requirements outlined in Section A (10) of the Boise MS4 permit issued on November 29, 2000 by the EPA. One full-time Erosion and Sediment Control (ESC) inspector, (Certified Inspector in Sediment and Erosion Control-CISEC) and fifteen part-time inspectors provide field inspections, (Boise City Responsible Person-RP-certified). A half-time administrative clerk is assigned to provide administrative and clerical support for the program. Both the ESC manager and the full time inspector are members of the International Erosion Control Association (IECA) and receive current updates regarding the erosion control field through the IECA.

The program includes on-site inspection services, plan review, and certification and outreach programs, including certification programs, for contractors and erosion and sediment control plan designers.

Planning staff which have received erosion control training who inspect sites for compliance with local regulations related to landscaping are used for ESC compliance as well. These planners verify that final stabilization of a site has taken place when they complete their inspection to verify that the proper landscaping has been installed per City of Boise ordinance. The City of Boise requires that a bond must be posted in the amount necessary to complete landscaping if the landscaping has not been completed and the applicant is asking for a certificate of occupancy. If the landscaping of a site is not completed within 90 days this bond can be cashed and final landscaping will be completed by the City. In cases where the bond needs to be cashed, the planners notify the erosion control manager and erosion and sediment control inspectors perform any follow-up inspections. Code Enforcement officers also received ESC training and provide the ESC manager information on projects which appear to be in non-compliance.

#### Erosion and Sediment Control Ordinance:

The local Construction Site Erosion and Sediment Control Ordinance (E&S Ordinance, BCC 8-17) enables the City to require and regulate construction-site erosion and sediment control measures.

A copy of the E&S Ordinance can be found at:  
[http://www.cityofboise.org/Departments/City\\_Clerk/PDF/CityCode/Title8/0817.pdf](http://www.cityofboise.org/Departments/City_Clerk/PDF/CityCode/Title8/0817.pdf)

Erosion and Sediment Control Plan Approval:

Boise City Municipal Code 8-17-02.3 addresses the requirements and specifications for an Erosion and Sediment Control Plan submittal. A plan review checklist was created to ensure consistency and uniformity in the plan review processes and procedures. Some of the requirements and specifications addressed on this checklist are as follows:

- Material Containment
- Spill Prevention
- Non-stormwater discharge controls
- Dewatering
- Erosion & Sediment controls
- Site stabilization

Table 4: Erosion and Sediment Control Plans Reviewed in FY2009

Passed ESC plans	264
Failed ESC plans	36

A copy of the Erosion and Sediment Control Plan Review Checklist can be found at:  
[http://www.cityofboise.org/Departments/PDS/PDF/Applications/ErosionApps/ESCApp\\_ESC\\_Checklist.pdf](http://www.cityofboise.org/Departments/PDS/PDF/Applications/ErosionApps/ESCApp_ESC_Checklist.pdf)

Erosion and Sediment Control: Training/Certification:

Boise City Municipal Code 8-17-02.6 addresses the training requirements for individuals charged with implementing and/or specifying structural and non-structural controls at construction sites. Class members are given a number of resources to aide them in the field with erosion and sediment control. The City of Boise offers two different certifications in Erosion and Sediment Control, the Responsible Person and Plan Designer certification. Both classes include information about local municipal and federal requirements as pertaining to the NPDES permit. Special efforts are made during all classes to communicate the necessary steps to achieve compliance. The students are encouraged to ask questions regarding either local or federal regulations and time is allocated to provide additional clarification regarding these regulations. Instructors are required to communicate uniform and consistent information to all classes with the intent of eliminating confusion for the design, development and construction industries.

Table 5: Certified Responsible Persons and Plan Designers – FY2009

Responsible Person	491
Plan Designer	90

The City distributes the following training materials at the certification classes:

- Responsible Person Training Manual
- Plan Designer Training Manual
- Construction Site Erosion and Sediment Control Field Manual (BMP).
- Boise City Municipal Code 8-17 Brochure
- EPA-910-F-03-002 Brochure – Construction Projects in Idaho
- Construction Storm Water Pollution Prevention Plan Checklist
- ACHD Construction Site Discharge Control Plan Requirements

The City also highlights and references other pertinent materials as part of its certification curriculum including:

- NPDES General Permit for Stormwater Discharges on Construction Sites
- Fact Sheet for the NPDES General Permit
- EPA 833-R-060-04 May 2007, “Developing Your Stormwater Pollution Prevention Plan – A Guide for Construction Sites”
- EPA 833-F-04-002 February 2004 Brochure, “Does Your Construction Site Need a Stormwater Permit?”
- Field Manual on Sediment and Erosion Control, Best Management Practices for Contractors and Inspectors
- Erosion Control magazine
- Stormwater magazine
- Idaho Department of Environmental Quality Catalog of Stormwater Best Management Practices for Cities and Counties

The City has developed high quality training that is recognized through out the state of Idaho as the standard for local jurisdictions. A Boise City Responsible Person or Plan Designer certification is accepted as meeting the requirements for certification in most other jurisdictions having erosion and sediment control programs within the state of Idaho.

Erosion and Sediment Control: General awareness education & outreach:

The Boise City Planning and Development Services Department (PDS) maintains a web page for all developers, contractors and others utilizing services provided by PDS. A portion of this web page focuses on erosion control issues. Included on the site are ordinance requirements, ESC permit forms, ESC technical information and links to other ESC sites of interest. The City has added links to EPA’s Electronic Notice of Intent (eNOI) and the database of NOI filings.

Whenever new information is added to the site, contractors, developers, design professionals and others who are signed up for PDSonline advanced services receive e-mail or text message notification that new information has been added.

City of Boise staff members provide ongoing awareness education & outreach regarding construction site erosion and sediment control requirements. The staff's outreach efforts during FY 2008-09 included:

- Providing daily, informal one-on-one information to contractors, developers, design firms, neighborhood leaders and concerned citizens regarding parts of the erosion and sediment control program, etc.;
- Partnering with Boise State University's Construction Management program to offer Erosion and Sediment Control "Responsible Person" certification training as part of their curriculum;
- Participating in one-day ESC training from a local professional engineer who is also a Certified Professional in Erosion & Sediment Control (CPESC) through EnviroCert International.
- Presented an ESC classes for Idaho Power company for field staff
- Participating with Boise State Small Business Development, City of Pocatello and EPA staff for ESC ordinance "roll out" for contractors and designers (Approximately 260) in February 2009.
- Publishing regular quarterly articles in the Hammer and Nail News which has a distribution of 4000+ and is electronically e-mailed to every developer, builder, design professional, and certified erosion control professional permitting work within the City of Boise.
- Presented a Responsible Person (RP) class for City of Boise Staff in which 15 were certified.

## 10.2 Inspection and Compliance

### Erosion and Sediment Control: Prioritized Inspections (implemented and tracked):

During 2008, PDS developed and implemented a formal prioritization process for all land disturbances and construction projects. Construction projects are classified into one of three categories: 1) site development, 2) vertical construction (commercial) or 3) single-family construction. All projects are then ranked and assigned an inspection schedule which varies in frequency and timing of inspection based on the environmental sensitivity of the project. For a description of rankings, please refer to Appendix Q for supporting documentation which includes: Erosion Control Project Ranking & Inspection Process-Standard Operating Procedures, (SOP) and ESC Project Types & Inspection Procedures flow chart.

Projects which are located in Environmental Sensitive Areas, (ES) receive more frequent inspection. An ES area is defined as "projects located within 100 feet of

the Boise River, irrigation canals, or any other defined tributary (free flowing or intermittent) or wetland from the area of disturbance.

Erosion and Sediment Control: Enforcement (implemented & tracked):

Regular inspections are made on construction sites in accordance with Boise City Municipal Code 8-17-03.4 which addresses administrative enforcement for construction activities. Approved erosion control plans and/or conditions used on construction jobs must be implemented, maintained, and inspected by an individual who has attended the Responsible Person Training class.

All construction sites are subject to inspection for compliance with the ESC plan and/or permit conditions. Construction site compliance activity is accomplished during the inspection process. To address situations of non-compliance, a Notice of Violation, Stop Work Order, Correction Notice or Citations may be issued. In addition, at the request of the permit holder, inspection may consist of job site conferences in which discussions or suggestions are made concerning existing or proposed Best Management Practices.

Erosion and Sediment Control: “potential responsibilities under NPDES permitting program” (notification process):

All Boise City Certified Responsible Persons and Certified Plan Designers are notified upon expiration of their licenses.

Section 2.6 of the E&S Ordinance (BCC 8-17-02.6.F) addresses the license renewal policy. A Boise City Certificate of Training shall be valid for 3 years from the date of issuance. A change of employment has no effect on the validity of the certificate. A certificate holder must attend the next available training program after three years has elapsed. If the certificate holder does not attend a training program as directed, the certificate shall expire the day following the designated program.

10.3 Database and Record Keeping

Erosion and Sediment Control database and record keeping: active and completed sites:

Through our permit program database it was reported a permit issuance number of 823 erosion control permit during FY2008-09. With our expanded inspection process we were able to inspect and “final” (completed sites) 2,748 erosion control permits. This number included permits issued in past years which had not been finalized.

Erosion and Sediment Control database and record keeping: nature of construction activity:

The Erosion and Sediment Control program utilizes an existing Planning and Development database (Accela Advantage) which was developed to track the status of erosion control permit applications. Permits are tracked from submittal of the application through the review process, field inspections, and enforcement activities by field inspectors. Reports of these activities can be accessed at any time. The data base continues to be refined in order to make report generation easier and to provide additional management tools to track review and inspection information.

Section 2.2 of the E&S Ordinance (BCC 8-17-02.2) classifies Erosion and Sediment Control permits into one of the following categories:

- General Permit : Issued for construction, demolition, and site development for single family homes and duplexes, and utility trench excavation.
- Site Specific Permit: Issued for construction, demolition, and site development for multiple home developments, apartment complexes and commercial sites.
- Special Site Permit: Issued for the following site conditions for additional control measures:
  - a. Development regulated by the City of Boise Hillside and Foothill Area Development Ordinance, Boise City Code Title 11, Chapter 14.
  - b. Pre-development slopes greater than ten percent.
  - c. Ground disturbance of a natural vegetative buffer within fifty (50) feet of wetlands or water bodies.
  - d. Sites located entirely or partially within an environmentally sensitive area as declared by the Director or state or federal authorities.
  - e. Any other site determined by the Director to have conditions necessitating additional control measures.

All ESC permit applicants are required to designate a Boise City certified Responsible Person and, if applicable, a Boise City certified Plan Designer before a permit will be issued. Permits also list the size of the project and expected amount of land disturbing activity.

10.4 Construction Site Runoff Annual Report – Year 9 of the Extended Boise Permit

In addition to the 2 FTEs, the City of Boise continues to seek to increase effectiveness of its erosion and sediment control program by providing erosion control inspector training for city employees in related fields, and then by utilizing these work groups in inspection activities. Eighteen (18) structural, electrical, mechanical and plumbing inspectors received extensive training in erosion control techniques and regulations. These workgroups perform erosion control inspections in addition to their normal trade-related inspections.

Erosion and Sediment Control database and record keeping: size of land clearing and grading:

All ESC permit applicants are required to disclose the size of the project and the amount of land disturbing activity that will occur when submitting for a City of Boise permit. Estimated total area of disturbances during FY2008-09 was 533 acres.

Table 6: Completed & Active Permits for FY2009, Including Estimate of Area Disturbed

Completed Permits (# of sites)	2,745
Active Permits (# of sites)	462
Total Acres Disturbed (estimated)	533

Erosion and Sediment Control database and record keeping: contact information for operator and owner:

Every ESC permit will list an applicant, a certified Responsible Person and a certified Plan Designer, if applicable. Contact information is included as well.

Erosion and Sediment Control: Inspections & Enforcement

In Fiscal Year 2008-09 there were 12,277 Erosion and Sediment Control inspections logged. A “Fail or Partial” disposition would account for some type of enforcement activity such as a verbal or written correction notice. A “Pass” disposition would account for a site being in compliance at the time of inspection which would include an site preparation, general, random, complaint, “aging” (past permits which have not been finalized) or a follow up inspection on a site which had received a fail or part disposition on the pervious inspection. An additional category includes “Done”, (conference, misc. etc) “Cancel” (duplication of inspection), “Not Ready”, (not ready for inspection because the project has not commenced) and “Deferred”, transferred to another inspector or to inspect at a later date or a different inspection type.

Table 7: Erosion and Sediment Control Inspection Compliance Results – FY2009

Pass	8,232
Partial	1,321
Fail	1,116
Done, Cancel, NR, Deferred	1,509
Complaint	52

Table 8: Erosion and Sediment Control Stop Work Orders – FY2009

Stop Work Orders	55
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## 11. Public Education

*“The copermittees shall implement a program to inform the public of the impact of pollutants in stormwater on waters of the United States and how to avoid addition of such pollutants to stormwater runoff...”* (Boise Area MS4 permit #IDS-02756-1, EPA 2000).

### 11.1 Public Education Program

The Stormwater Public Education Program compliments and coordinates with a variety of pollution prevention outreach activities. Public education and outreach activities implemented during FY2009 address each of the five activity categories identified in the Boise Area MS4 permit 2004 reapplication packet.

### 11.2 Public Education Annual Report: Year 9 of the Extended Boise Permit

In Part 2.A.11 (3) the permit identifies that the copermittees shall promote an advertising campaign and shall distribute copies of flyers developed to education and inform residents and businesses. The implementation of this requirement has been based on a “Partners for Clean Water” advertising campaign that includes a unifying logo, web site (PartnersForCleanWater.org), mascot (e.g., Eddy Trout), outreach at various community events, and radio and television public service announcements. The Streamlines quarterly newsletter provides updates on stormwater education and outreach activities to local water quality professionals.

#### 1. Storm Drain Marking

Our storm drain marking program continues to be a very popular volunteering opportunity with schools, churches, and various other groups in the Treasure Valley. We currently have 11,080 storm drains within our jurisdiction and of those 6,680 have been marked with over 1200 people participating in various volunteering events. We will continue to promote the program and the need for volunteers. The storm drain markers still prove to be one of the most effective ways to get the Partners for Clean Water message out to the residents of the Treasure Valley. A map that identifies areas that have been marked so far is included with the other FY2009 public education products in Appendix R.

#### 2. Watershed Outreach

##### ***Business Partners for Clean Water***

The Business Partners for Clean Water is a program designed to keep harmful residential, commercial, and industrial wastewater from being discharged into the

Boise River and waterways through storm drains. Currently the program focuses on carpet cleaning businesses in Boise and greater Treasure Valley.

The Business Partners will continue with their plan to develop a partnership with landscaping businesses during FY10. This partnership will encourage landscaping businesses to educate themselves on the proper practices and requirements in the Landscape Ordinance. We are also going to be researching the possibility of partnering with other local businesses such as commercial car washing facilities, power washing companies and other business that may have potential stormwater pollutants.

### ***WaterShed Watch 2009***

In the first annual Watershed Watch volunteers are given the opportunity to get a snapshot of the health of the Boise River watershed by monitoring water quality. Citizen groups, schools, families, and individuals are invited to participate in this fun, educational event.

The volunteer groups take samples of the water which is then tested for flow, temperature, pH, dissolved oxygen, turbidity, bacteria, and macroinvertebrates.

A summary of the Watershed Watch data is included in Appendix S.

### ***Stormwater Events, Exhibits, and Materials Distributed During FY2009***

Appendix T lists the activities, products, frequency/time/volume of education elements, the number reached, and the target audience. Table 8 lists the key education events, Table 9 lists the location and time period for the “Clean Water Works” exhibit, Table 10 lists focused information developed and distributed during FY2009. Table 11 lists local projects for innovative stormwater treatment.

Table 8: Stormwater Events for FY2009

<b>Event</b>	<b>Date</b>
Boo at the Zoo	10/08
Parks & Recreation Volunteer Day	10/08
Community Harvest Party	10/08
Holiday Parade	11/08
BSU Health Fair	11/08
Boys & Girls Club Holiday Party	12/08
Special Olympics	2/09
Stormwater Technical Conference	3/09
EGGstravaganza	4/09
Garden City after School Program	4/09
Earth Fest	4/09
Boise WaterShed – student field day	4/09
Watershed Watch	4/09
Zoo Daze	5/09
Go Green Challenge	5/09
Summer Send off – Horizon Elementary	5/09
Library! Stormwater display	6/09
Boise WaterShed – Girl Scouts Eco Day	6/09
St. Al’s Capitol Classic	6/09
Main Street Mile Run	6/09
Water Awareness Week teacher workshop	7/09
Green Expo	7/09
C.A.S.T. for Kids event	8/09
Western Idaho Fair	8/09
Anser Charter School – Eco Kids	8/09
Boise RiverSweep	9/09
Teacher’s Night Out	9/09

Table 9: “Clean Water Works” Exhibit Venues – FY2009

<b>Location</b>	<b>Period</b>
City of Pocatello	October 2008 – September 2009

Table 10: Focused Information Development and Distribution – FY2009

<b>Publications and Outreach</b>
Advertising Campaign:
Eddy Trout Mascot
Eddy Trout Stickers
Eddy Trout Tattoos
Eddy Trout T-Shirts
Partners for Clean Water STW Hotline Magnets
Eddy Trout Drink Coasters
Eddy Trout Business Cards
TV Public Service Announcements (PSAs) (30 and 60 second spots)
Radio PSAs
Bus Ads
Streamlines Quarterly Program Newsletter
Stormwater Boise City Non-Stormwater Disposal BMP Handbook
Idaho Construction Site Erosion and Sediment Control BMP Pocket Field Guide

Table 11: Best Management Practices Demonstration Projects – FY2009

<b>Project</b>	<b>Location</b>	<b>Installation Date</b>
Water Wise garden	Boise WaterShed	Summer 2009
Bioretention	Municipal Park	9/99
Porous Pavement	Utility Maintenance	9/03

### 3. Hazardous Material and Waste Management

Boise's Household Hazardous Waste Collection Program consists of mobile collection sites in Boise, Meridian, Kuna, and Eagle, and a permanent collection facility at the Ada County Hidden Hollow Sanitary Landfill. The mobile collection sites are open to residents within the limits of the respective cities, while any Ada County resident can use the permanent collection facility at the Ada County Hidden Hollow Sanitary Landfill.

The mobile collection sites will collect the following products:

- All household chemicals, cleaning products, paint and automotive products, lawn and garden chemicals, pool supplies, and used electronics.
- They will accept outdated or unused prescription drugs, except for controlled substances.
- All sizes of propane cylinders and mercury-containing items such as compact fluorescent light bulbs and fluorescent light tubes, thermometers, and thermostats.
- They do not accept biomedical waste (i.e., sharps), radiological materials, and explosives.

Homebound Service is available to elderly and physically challenged residents. This service provides convenient at-home pick-up for those who are unable to safely transport or have access to readily available assistance from others to transport their household hazardous waste to a collection site.

Businesses located within Ada County can take advantage of the Conditionally-Exempt Small Quantity Generator (CESQG) Program which provides an affordable disposal option for businesses that generate small quantities of hazardous waste.

HVAC companies can manage old mercury-containing thermostats by joining a national recycling effort sponsored by the Thermostat Recycling Corporation and promoted by the Boise Public Works Department.

A re-use area, located at the permanent collection facility at the Ada County Hidden Hollow Sanitary Landfill, provides an opportunity for residents to pick up items like paints, wood finishes, automotive fluids, and lawn and garden chemicals received through the program free of charge.

#### 4. Recycling and Composting

The city of Boise has both residential and business recycling programs. Both offer a wide variety of services and by signing up residents get a discount on their trash bill for both programs.

Commercial recycling is available to business organizations, as well as churches, schools, and more. Several service options are available for recycling. New and improved plastic recycling program guidelines make recycling even easier. Boise City has designed the program to be tailored to a business's needs.

Every household that signs up for service is provided with a blue recycling cart for no-sort recycling. Customers who do not recycle pay \$4 more per month than customers who do recycle.

The Downtown Recycling Program is a public program with convenient centers scattered throughout the downtown business district. Each recycling center collects newspapers, aluminum cans and plastic beverage bottles in separate receptacles.

In addition to curbside collection of typical recyclables (plastics, metals, paper, cardboard), Boise residential customers also have free seasonal curbside collection of leaves, garden debris, Christmas trees, and branches. The program is called "Recycle the Fall." Leaf/garden debris collection constitutes the first phase of the program and takes place in November. All of the leaves are composted in a designated area of the county landfill and are primarily used on site in the re-vegetation process. For a 2-week period after Christmas, branches and Christmas trees are collected curbside and eventually chipped for reuse.

In addition, compost bins are available at cost to Boise residents.

## 5. Community Curriculum

### ***Community Curriculum: Boise WaterShed Environmental Education Center***

The Boise WaterShed Environmental Education Center (Boise Watershed) is a unique civic/government partnership conceived as a public education project in 1992 by Boise Public Works Department staff. Architects determined that it was more cost-effective to build a new building rather than renovate and repair the existing structure. With the idea of a new building, came the initiative to make the building's focus on public education, with office space as a secondary purpose.

In 2005, the non-profit Boise WaterShed Exhibits, Inc. (BWE) was incorporated. The City and BWE agreement was signed, and a volunteer BWE Board of Directors was established to raise \$1 million for the exhibits. In 2007, BWE reached their goal of \$1 million thanks to community leaders, organizations, and corporations who recognize the importance of the critical message the Boise Watershed delivers. Boise WaterShed Exhibits, Inc. is dedicated to promoting water stewardship well into the future.

The Boise WaterShed features high-tech interactive computer exhibits, and a theater and library. This Environmental Education Center promotes water stewardship by teaching people of all ages how to protect and conserve our precious resource for future generations.

Since it's opening in May 2008 the Boise WaterShed has been visited by over 10,000 visitors, including hundreds of students and other community groups. The WaterShed also has many volunteering opportunities for people of all ages. The staff is continually developing new curriculum and lessons to enhance the visitor's experience. [www.cityofboise.org/BEE](http://www.cityofboise.org/BEE)

### ***Community Curriculum: Foothills Learning Center***

The Foothills Learning Center was dedicated on Earth Day - April 22, 2005 and is the result of an amazing collaboration among federal, state and local government, non-profit organizations, corporations, and private citizens.

The Foothills Learning Center, located in the Boise foothills desert-sagebrush ecosystem, provides low-tech outdoor foothills experiences plus classroom and conference room spaces.

Operated by the City of Boise Parks and Recreation Department, the Foothills Learning Center focuses on education and information about the Boise foothills and the surrounding high-desert environment. It is a place for learning by direct experience with the outdoors.

Science comes alive for students and other visitors to the Foothills Learning Center. The heart of the Foothills Learning Center program is their school-age education program. They offer a wide range of lessons for kindergarten through sixth grade both in the classroom and at the Center.

They also provide service-learning opportunities for all ages and abilities, and special family and community events throughout the year. All of the programs are interactive and designed to give a new look at the local environment and ways to reduce your impact on the planet.

[www.cityofboise.org/BEE](http://www.cityofboise.org/BEE)

### ***Community Curriculum: School-Age***

In FY10 the Partners will be working with the Boise WaterShed to develop a school age program “Eddy’s Fin Club” to promote water stewardship among elementary age children. The program will include a set of activities that each child must complete in order to achieve the program certificate of completion. A draft of the program brochure is included in Appendix R.

### ***Community Curriculum: Water Awareness Week***

The Partners for Clean Water participates in a yearly teacher’s workshop in conjunction with Idaho Water Awareness Week. The statewide committee brings together various sponsors to help support regional water education events and materials. Water Awareness Week in Idaho is always the first full week in May. The theme for 2009 was the Water/Energy Nexus.

## **6. Innovative Stormwater Management**

### ***Stormwater Technical Conference, Boise WaterShed Environmental Education Center, March 2009***

On March 3<sup>rd</sup> & 4<sup>th</sup>, 2009 the Partners for Clean Water, along with the City of Boise, EPA, Ada County Highway District, City of Nampa, and Brown & Caldwell co-sponsored and hosted a two-day comprehensive training on sustainable urban drainage designs. Local architects, engineers, landscape architects, and stormwater professionals attended to learn about sustainable urban drainage designs.

The first day of the training consisted of a classroom session in which presenters shared their design and maintenance experiences with swales, green roofs, and stormwater re-use, and other innovative stormwater solutions. Presenters included: Lance Warnick of Aspen Engineers, Adam Lyman of American GeoTechnics, Chad Jones of Lochsa Engineering of Idaho, Peter Goodwin of The University of Idaho, Jeff Moeller with WERF, Christine Pomeroy with WERF, C. Dasch Houdeshel of The University of Utah, Johanna Bell with the City of Boise, and Brian Murphy with the City of Boise. Two panel discussions were held that dealt with Development Perspectives and Permitting Agency Perspectives. The panel members were Steve Burgos of Brown & Caldwell, Joe Canning of B&A Engineers, Jeff Fereday of Givens Pursley, Michael Fuss with the City of Nampa, and Greg Lanning with the City of Pocatello.

The second day The Partners for Clean Water Expo offered an opportunity for those attending to view products offered by many vendors in the stormwater industry. There was also a field trip that included local site visits that demonstrated sustainable stormwater controls.

Table 10: “Clean Water Works” Exhibit Venues – FY2008 - 09

<b>Location</b>	<b>Period</b>
City of Nampa – City Hall	October 2007 – January 2008
Garden City – City Hall	January 2008 – June 2008
AIC Conference- Boise City	June – (three days)
Boise WaterShed	June 2008 – August 2008
City of Pocatello	August 2008 – present

Table 11: Focused Information Development and Distribution – FY2009

<b>Publications and Outreach</b>
Advertising Campaign:
Eddy Trout Mascot
Eddy Trout Stickers
Eddy Trout Tattoos
Eddy Trout T-Shirts
Partners for Clean Water STW Hotline Magnets
Eddy Trout Drink Coasters
Eddy Trout Business Cards
TV Public Service Announcements (PSAs) (30 and 60 second spots)
Radio PSAs
Bus Ads
Streamlines Quarterly Program Newsletter
Business Partners for Clean Water – Survey Response Postcard
Boise Non-Stormwater Waste Disposal BMP Handbook
BMP Pocket Erosion and Sediment Control Field Guide
Stormwater Design Manual

## B. Boise Stormwater Management Program Status Review and Proposed Changes

### 1. City Stormwater Management Plan Evaluation

The goal of the City’s SWMP is to maintain or improve the existing water quality of the receiving water bodies, including the Lower Boise River (LBR).<sup>14</sup> One of

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<sup>14</sup> In the April 2000 Draft Boise Stormwater NPDES Permit and Fact Sheet the EPA encouraged the copermittees) to consider the following water quality goals: (1) no discharge of toxics in toxic amounts; (2)

the ways to ensure ongoing attainment of these and other water quality goals is to review the existing data for stormwater impacts on receiving water quality and pollutant load targets, surface and ground water quality standards, and other requirements specific to the local area.

Water quality data obtained for the LBR by the IDEQ during 2008 in order to develop a five-year review of the Lower Boise River Subbasin Assessment (SBA) and Total Maximum Daily Loads (TMDLs) for bacteria and sediment. This review addressed the water bodies in the Lower Boise River Subbasin that are in Idaho's current and most recent draft Section 4(a) of the Integrated Report and was developed to comply with Idaho Statute 39-3611 (7) (IDEQ, 2008). [http://www.deq.state.id.us/water/data\\_reports/surface\\_water/tmdls/boise\\_river\\_lower/boise\\_river\\_lower\\_five\\_year\\_review\\_final\\_0209.pdf](http://www.deq.state.id.us/water/data_reports/surface_water/tmdls/boise_river_lower/boise_river_lower_five_year_review_final_0209.pdf).

Other water quality data and reports can be found by going to the "stormwater links" page on our Partners for Clean Water web site ([www.PartnersForCleanWater.org](http://www.PartnersForCleanWater.org)).

Through these and other local water quality planning efforts, the City intends to continue to review and collect data as needed to inform the City and copermittees on current and future water quality issues.

## **2. Proposed Minor Changes**

No minor changes are proposed at this time.

### **C. Revisions to the Assessments of Controls or Fiscal Analysis**

#### **1. Assessments of Controls**

*"40 CFR 122.26(d)(2)(iv) ASSESSMENT OF CONTROLS. Include (in the permit application) estimated reductions of pollutants for discharges of municipal storm sewer constituents from municipal storm sewer systems expected as a result of the municipal storm water quality management program. The assessment shall also identify known impacts to ground water."*

No revision to the Assessments of Controls is proposed by the Boise Area MS4 permit copermittees at this time. However, the City recognizes that an evaluation of the original Assessment of Controls submitted in the Part 2 permit application would assist in assessing water quality standard compliance in the LBR and other

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no discharge of floatable debris, oils, scum, foam, or grease in other than trace amounts; (3) no discharge of non-stormwater from the MS4, except in accordance with...the permit; and, (4) no degradation or loss of State designated beneficial uses of receiving waters as a result of stormwater discharges from the MS4 unless authorized by the State in accordance with the State's Anti-degradation Policy.

water bodies that receive Boise Area MS4 discharges. The City will continue to provide input to the copermitees when potential data and data evaluation gaps are noted in order to assist in future review of the Boise Area MS4 permit's Assessment of Controls.

## 2. Fiscal Analysis

A fiscal impact analysis to the City as of first closing<sup>15</sup> is provided in Table 12 for staff, equipment, and operation and maintenance to implement the Boise MS4 permit components during FY2009, unless otherwise identified.

Table 12: Total Estimated Costs Associated with Boise Area MS4 Permit Implementation

<b>Program</b>	<b>FY2009 Cost</b>
PW UM - Floodway O&M Plan	\$54,645.34
PW ENG – Floodway O&M Plan	\$5,486.99
Library O&M Plan	\$6,872.59
PDS – CHD O&M Plan	\$39,000 <sup>16</sup>
Parks and Recreation O&M Plan	\$14,287.34
PW GB & Fire O&M Plan	\$16,655.71
Airport Facilities	\$113,175.93 <sup>17</sup>
Drainage Permit Review Program	\$74,593.05
Solid Waste	\$121,000 <sup>18</sup>
Illicit Discharge Compliance Assistance	\$11,786.68
Industrial High Risk Program Support	\$3,307.18 <sup>19</sup>
Spill Prevention (Fire)	\$247,545
PDS - Construction Site Discharge Control	\$259,955.70
Stormwater Program Coordination and Public Education	\$146,680.21 <sup>20</sup>
Water Quality Program Support	\$4,037.01
<b>Total (of costs provided)</b>	<b>\$1,119,028.73</b>

<sup>15</sup> Final closing of each fiscal year typically occurs within three months of the end of the fiscal year. More exact financial figures are available at that time.

<sup>16</sup> Approximate fiscal impact for labor, materials, and professional services.

<sup>17</sup> Labor and permit implementation compliance was not tracked.

<sup>18</sup> Labor and permit implementation compliance was not tracked.

<sup>19</sup> Un-billed program coordination amount only. ACHD was billed for \$5,683.48. Total program cost during FY2009 was \$8,990.66.

<sup>20</sup> Copermitee cost share revenue for FY2009 was \$29,911.57. The off-setting technical conference revenue was \$1550. The total program coordination and public education cost during FY2009 was \$178,141.78.

## D. Summary of Data Accumulated During FY2009

Please refer to the Water Quality Monitoring Report and copermitttee summary for information other than what is reported in Section A of this report.

## E. Annual Expenditures and Budget for FY2009

The projected expenditures to implement the Boise MS4 permit requirements for City FY2010 are expected to generally be the same as FY2009.

## F. Compliance, Inspections, and other Education and Outreach Activities

Boise Area MS4 compliance, inspections, and other education and outreach activities are summarized in Section A (Table 3), and Appendix L, M, R, and T of this report for the multiple program areas.

## G. Water Quality Improvement or Degradation

The goal of the City's SWMP is to maintain or improve the existing water quality of the receiving water bodies, including the Lower Boise River (LBR) and to reduce the amount of pollutants delivered to surface and subsurface water bodies from impervious surfaces to the MEP either by the pollutant removal provided by site planning and drainage structure design or pollutant source control.

At this time, the City relies on those Boise Area MS4 permit requirements that have the potential for both direct (e.g., permitted permanent stormwater systems and construction site runoff compliance) and indirect (e.g., public education) pollutant reductions to demonstrate overall water quality improvements for stormwater from the City of Boise's jurisdiction.

Implementation of the storm drain volunteer marking program is an example of "indirect" water quality improvements. Slowly, the Boise Area MS4 storm drains are getting marked. A map of the areas marked since the program was first developed in 2003 is provided in Appendix R.

Direct improvements to water quality through on-site stormwater retention are also being implemented by the City. "Green development" practices that include on-site stormwater retention controls are widely understood as a cost effective means for reducing pollutant loads to surface water bodies. More recently, "best available technology" (BAT) for stormwater quality controls have been defined in Washington State as (1) aggressively pursuing on-site infiltration and "low impact

development” practices, (2) appropriate engineering solutions for flood control, and (3) retaining native vegetation through local land use planning.<sup>21</sup>

Since FY2001 the city has effectively achieved retention for the 50-year, 24-hour or 100-year, 24-hour storm depth on nearly 98% of the acres permitted for development (Table 13).

Table 13: Total Permitted Permanent Stormwater Systems, FY2001 – FY2009

	<b># of systems</b>	<b># of acres<sup>22</sup></b>	<b>% acres</b>
Infiltration	1692	1173	96.5%
Detention Ponds	17	17	1.4%
Sub-Total	1709	1190	97.9%
Off-Site Treatment & Disposal <sup>23</sup>	26	26	2.1%
Total	1735	1216	100%

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<sup>21</sup> August 8, 2008 ruling by the Washington State Pollution Control Board, and the October 15, 2008 final report by the National Research Council “Urban Stormwater Management in the United States.”

<sup>22</sup> Estimated treatment area for swales, bio-retention, and “lattice grids” are ¼ acre per structure, all other systems (e.g., ponds & trenches) are estimated to treat 1 acre per structure.

<sup>23</sup> All off-site treatment and disposal systems are subject to an 80% reduction in TSS and other additional pre-treatment requirements according to BCC 8-15 and the Drainage Design Manual.

## H. Storm Event Monitoring Summary

Please refer to the ACHD Water Quality Monitoring Report for FY2009 for this information.

## I. Other Information for Annual Report Submittal

Please refer to the copermittee summary for this information.