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18946.0059

Attorneys for Petitioner
Pioneer Irrigation District

BEFORE THE ENVIRONMENTAL APPEALS BOARD
U.S. ENVIRONMENTAL PROTECTION AGENCY

CITY OF CALDWELL IN RE NPDES PERMIT NO. IDS-028118	**AFFIDAVIT OF MATTHEW J. MCGEE**

STATE OF IDAHO)
) ss.
County of ADA)

Matthew J. McGee, having been duly sworn upon oath, deposes and states as follows:

1. Attached hereto as Exhibit A is a true and correct copy of the City of Caldwell's National Pollutant Discharge Elimination System Permit Application, dated February 25, 2003.

ORIGINAL

2. Attached hereto as Exhibit B is a true and correct copy of the Caldwell Stormwater Municipal Management Manual, dated September 5, 2006.

3. Attached hereto as Exhibit C is a true and correct copy of comments regarding proposed NPDES Permit No. IDS-028118, submitted on behalf of Pioneer Irrigation District in response to the Environmental Protection Agency's requests for public comment.

4. Attached hereto as Exhibit D is a true and correct copy of excerpts from the Deposition of Gordon Law, dated July 23, 2009, in the case of Pioneer Irrigation District vs. City of Caldwell, Case No. CV 08-556-C.

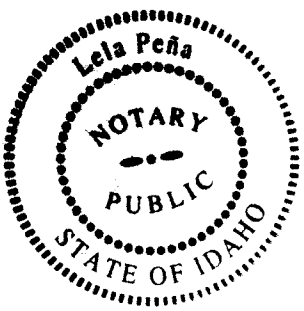
5. Attached hereto as Exhibit E is a true and correct copy of correspondence from Pioneer Irrigation District to the Environmental Protection Agency regarding newly discovered information relevant to NPDES Permit No. IDS-028118. Duplicative enclosures are omitted.

6. Attached hereto as Exhibit F is a true and correct copy of excerpts from the Environmental Protection Agency's Response to Comments, dated September 2009, and transmitted to Pioneer Irrigation District with the Final NPDES Permit No. IDS-028118.

Further your affiant sayeth naught.

Matthew J. McGee

SUBSCRIBED AND SWORN to before me this 9th day of October, 2009.



Lela Peña
NOTARY PUBLIC FOR IDAHO
Residing at Boise
My Commission Expires 5-31-2012

Exhibit A

60-89-116(D)
25-15-1(d)

National Pollutant Discharge Elimination System – Permit Application

1) Activity for which permit is sought:

   The City of Caldwell operates a municipal separate storm sewer system located in Canyon County, Idaho.

2) Jurisdiction information for which the application is submitted:

   Garret Nancolas, Mayor
   City of Caldwell
   Caldwell City Hall
   621 Cleveland Blvd
   Caldwell ID 83605

   Phone: 208.455.3011
   Fax: 208.455.3003

3) Standard Industrial Classification (SIC) Code: 9199

4) Stormwater Contact:

Principal:	Gordon Law, Public Works Department Director
Phone:	208.455.3006
Fax:	208.455.3003
Email:	glaw@ci.caldwell.id.us

5) This jurisdiction is not located on Tribal lands.

6) Permits or construction approvals:
   UIC permits:
   Shallow injection wells for storm water are permitted by rule in Idaho.
   NPDES permits:
   Caldwell Wastewater Treatment Plant (ID0021504)
   Caldwell Housing Authority (ID0025453)
   Caldwell Airport Storm Water Industrial Permit
   404 permits:
   These permits are applied for on a project specific basis and are only for the duration of the project.

7) Topographic map: Included separately

8) Nature of business: Caldwell is located in the Snake River plain in Southwest Idaho and is the ninth largest city in Idaho. The City of Caldwell uses a mayor/council form of government consisting of a six-member city council with staggered four-year terms. The population of Caldwell in the year 2000 was 25,967 (U.S. Census Bureau). Caldwell is located in Canyon County, which has a

population of 115,100 people.

Caldwell is situated in the Treasure Valley along the Boise River. Covering an area of approximately 12.5 square miles, the City sits at an elevation of 2,428 feet above sea level. The valley is surrounded by the Owyhee, Weiser and Boise mountain ranges that rise steeply to 8-9,000 feet above sea level and range in distance from eight to twenty miles away from Caldwell, surrounding the Treasure Valley.

The municipal separate storm sewer system operated by the City of Caldwell consists of roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, and storm drains used for collecting or conveying storm water. Storm water runoff within the Caldwell city limits is discharged to the following waters of the U.S.:

Indian Creek	Mason Creek
Boise River	Dixie Drain
Elijah Drain	Wilson Drain
A Drain	Noble Drain
Solomon Drain	West End Drain
Laurel Drain	Parker Gulch
Isaiah Drain	

Storm water management issues are addressed by the Caldwell Public Works Department, which is comprised of seven divisions. The Public Works Department is responsible for the overall implementation of the Storm Water Management Plan. In addition, the Parks Department has responsibility for specific activities identified in the Plan that address municipal operations.

8) Square mileage served by the Municipal Separate Storm Sewer System (MS4): 12.5 square miles

9) Description of best management practices: See enclosed Storm Water Management Plan

10) Description of measurable goals: See enclosed Storm Water Management Plan

12) Responsible Person: Gordon Law, Public Works Director
Phone: 208.455.3006
Fax: 208.455.3003
Email: glaw@ci.caldwell.id.us

Certification

"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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Authorized Representative Name

Garret Nancolas, Mayor

Signature

Garret L. Nancolas

Date

Feb 25, 2003

CITY OF CALDWELL INCORPORATED JAN 15 1890 CANYON COUNTY, IDAHO

Storm Water Management Plan

The Caldwell City Storm Water Management Plan describes existing programs and activities and additional actions that the City of Caldwell will take to comply with the federal storm water regulations (40CFR126). The plan addresses each of the six minimum control measures and describes best management practices (BMPs) that will be implemented during the course of the permit term. These BMPs were chosen based on the following considerations:

- Activities which reduce pollutants addressed by Total Maximum Daily Load (TMDL) allocations
- Identified problems
- Local conditions
- Existing programs and activities

Storm water runoff within the Caldwell city limits is discharged to the following waters of the U.S. that include the Boise River, Indian Creek, Mason Creek, Dixie Drain, Elijah Drain, Wilson Drain, A Drain, Noble Drain, Solomon Drain, West End Drain, Laurel Drain, Parker Gulch and Isaiah Drain. These drainages connect to the Lower Boise River, which ultimately discharges to the Snake River above Hells Canyon.

There is an approved TMDL for the Lower Boise River and a draft TMDL for a portion of the Snake River to which the Boise River is tributary. TMDLs will also be developed for Indian Creek and Mason Creek. Potential pollutants of concern include nutrients, bacteria, and sediment, and dissolved oxygen. Efforts to reduce discharges of suspended sediment to the storm drain system will focus on construction and post-construction measures. Measures that maintain pre-development hydrology are also fundamental to meeting sediment reduction requirements. Maintenance activities such as street sweeping and clean out of catch basins also reduce sediment loads to the River.

Control programs for bacteria will focus on education regarding pet waste cleanup, proper disposal of kitty litter, septic system maintenance, and general urban housekeeping. Controls that result in nutrient reductions also improve dissolved oxygen and include components of the illicit discharge detection and elimination measure, public education activities, and certain types of structural practices used in land development that provide for nutrient removal.

Projected growth is an important consideration in developing priorities for storm water-related activities. From 1990 to 2000, the population of Caldwell increased by 41% (U.S. Census Bureau, 2000). Construction and

post-development controls, both structural and nonstructural, are emphasized. When adequate controls are in place prior to development, there will be a net pollutant load reduction as the land use is converted from agriculture to urban/suburban. With appropriate development policies and regulations in place, the expected growth in the coming years provides the City of Caldwell with an opportunity to address stormwater runoff and associated loads and realize a net decrease in pollutant loads.

Many proposed activities build on existing capabilities. Activities that can be implemented through existing programs have the advantage of institutional acceptability and cost savings. Support is more likely to exist if the activity builds on existing capabilities or modifies existing programs or activities. Without institutional support, control measures are less likely to be implemented which will have a significant impact on the effectiveness of urban runoff control programs. Integrating new activities with existing programs is also one of the most cost-effective ways to achieve reductions in pollutant loadings.

These activities include the development of educational materials, public involvement in program development and implementation, development of maintenance guidelines to implement existing detention requirements, development of an Operations and Maintenance Plan for documenting and enhancing existing inspection and maintenance activities, and providing additional employee training.

New programmatic activities include the development of a construction site control program. The new authorities needed for the construction site program may be enacted through an ordinance specifically targeted to construction sites or written as a broader storm water management ordinance that also provides additional restrictions on illicit connections and illegal dumping.

It is through the implementation and evaluation of these BMPs that the City of Caldwell will ensure that all the objectives of the Phase II NPDES program will be met. The storm water management program will address the following six minimum control measures:

- Public education and outreach
- Public participation/involvement
- Illicit discharge detection and elimination
- Construction site runoff control
- Post-construction runoff control
- Pollution prevention/good housekeeping

Following is a discussion of each Plan component as it relates to these measures. Proposed activities are also summarized in a table at the end of the Plan.

Public Education and Outreach on Storm Water Impacts

Baseline

The City currently provides information to the public in a number of ways. This includes a City web site that provides access to information about City departments. Each of the departments may also conduct public education and outreach activities in response to specific issues. Methods have included press releases, direct mailings to stakeholders, sewer and water bill inserts, and a public notice board in City Hall and at the library.

Proposed Best Management Practices

The following BMPs build on existing capabilities and will focus on the problems and activities that are the sources of pollution of concern in Caldwell. The web page, brochure, and sewer bill inserts will address sources of pollution, actions that can be taken to reduce pollutants, and who to call to report a problem.

Activity:	Educational materials such as brochures or fact sheets will be developed and distributed at venues such as the Engineering desk and pay window in City Hall, the library, community events, direct mailings or as utility bill inserts. This information will also be provided to Department heads for distribution by staff in the course of their regular activities.
Target Audience:	General public
Responsible Party:	Public Works Department
Milestones:	Develop educational materials (Year 1) Distribute information (Years 2-5)
Measurable Goal:	Distribute information through a minimum of three venues annually. The number of distribution opportunities and materials distributed will be tracked.

Activity:	Storm water program press releases
Target Audience:	General public and stakeholders
Responsible Party:	Public Works Department
Timeframe:	Ongoing throughout permit term
Measurable Goal:	Press releases will be issued regarding each major program milestone. Major milestones include the development of a new activity or program such as

storm drain inlet stenciling or the program to control discharges from construction sites; receipt of the permit from EPA; and enactment of new ordinances.

Activity:	Include storm water page with City's website
Target Audience:	General public and stakeholders
Responsible Party:	Public Works Department
Milestones:	Create web page (Year 2) Update as needed (Years 3-5)
Measurable Goals:	Information on the web page will be reviewed annually and updated as needed.

Activity:	Storm drain drop inlet stenciling
Target Audience:	General public
Responsible Party:	Volunteer organizations recruited and trained by Public Works Department
Milestones:	Obtain materials and promote activity (Year 1) Ongoing implementation (Years 2-5)
Measurable Goal:	Require stenciling by developers in all new developments and promote stenciling by volunteer groups in existing developments.

Activity:	Education or training for problem issues/areas
Target Audience:	Industrial and commercial businesses
Responsible Party:	Public Works Department/Code Enforcement
Milestones:	As needed
Measurable Goal:	Targeted education activities will be implemented within one year of problem identification. The number of educational materials distributed or outreach efforts to business owners and operators will be tracked.

Public Involvement/Participation

Baseline

The City currently complies with applicable state and local public notice requirements, which includes public notice of new ordinances or ordinance revisions. The Open Meeting Law (Idaho Code Title 67, Chapter 23) sets forth requirements for public notification of meetings.

The Spring Clean-up, sponsored by the Streets Department and the Parks and Recreation Department, is an existing public participation activity. This event includes incentives such as free pickup and disposal of solid waste.

Proposed Best Management Practices

The public will be involved in the development, implementation and ongoing review of the storm water program to provide for broader public support and a broader base of expertise. Stakeholder involvement will target interests most affected by the program elements.

Activity:	Existing community cleanup activities will be promoted and used as a method for public education and public involvement, through additional publicity, educational activities, volunteer involvement of schools and community organizations, and specific cleanup activities in public areas.
Target Audience:	General public
Responsible Party:	Public Works Department
Milestones:	Annual event throughout permit term
Measurable Goal:	The quantity of waste collected as a result of cleanup efforts.

Activity:	Involvement of stakeholders in construction site program development
Target Audience:	Affected stakeholders
Responsible Party:	Public Works Department
Milestones:	Draft program elements (Year 1) Develop regulatory authority (Year 2)
Measurable Goal:	Stakeholders will provide review and feedback at major decision points during program development.

Activity:	Public meetings
Target Audience:	General public, decision makers and stakeholders
Responsible Party:	Public Works Department
Milestones:	A public meeting for program review prior to submittal of the permit application to EPA and on an annual basis is planned.
Measurable Goal:	A minimum of one public meeting per year will be held.

Activity:	Storm drain drop inlet stenciling
Target Audience:	General public
Responsible Party:	Volunteer organizations recruited and trained by Public Works Department
Milestones:	Obtain materials and promote activity (Year 1) Ongoing implementation (Years 2-5)
Measurable Goal:	Require stenciling by developers in all new developments and promote stenciling by volunteer groups in existing developments.

Illicit Discharge Detection and Elimination

Baseline

Code enforcement activities are addressed by the Police Department and the Planning and Zoning Department. The Police Department provides the initial response to complaints related to dogs, weeds and abandoned vehicles, while the Planning and Zoning Department addresses land use issues. Other types of complaints may be referred to other City departments as appropriate. The Planning and Zoning Department tracks complaints and their status, and will be able to generate annual summary reports as of 2002.

The Canyon County Landfill accepts household hazardous waste from residents of the county. Wastes such as used oil and antifreeze are collected at the landfill for recycling. The Idaho Department of Agriculture sponsors an annual collection day for pesticides at the landfill. These chemicals are sent off-site for disposal. These activities provide an appropriate means of disposal of wastes for Caldwell residents.

Existing authorities to control illicit discharges are spread throughout the municipal code. For instance, the Open Burning Ordinance contains a general provision that prohibits littering on any street, alley, sidewalk or vacant ground or any canal, irrigation ditch, drainage ditch or other watercourse. (CCC 08-17-01 (1) C.) There is no single ordinance that addresses the range of activities that might impact the MS4.

Existing activities to detect illicit connections include building inspections for new development, industrial inspections by pretreatment staff, routine street and drainage system inspections and maintenance, and ongoing code enforcement activities.

Proposed Best Management Practices

A storm sewer system map, showing the location of all outfalls and drop inlets will be developed. Dry weather screening of all outfalls will be done as part of this effort. Detection of illicit connections will continue to be done through existing inspection activities. In addition, dry weather outfall screening will be implemented.

Additional enforcement remedies are needed. An evaluation of existing authorities will be done and additional authorities enacted that will allow the City to access private property from which an illicit discharge originates, assign enforcement authority and establish further prohibitions against unauthorized connections and illegal dumping. The requirement to control illegal dumping will also be addressed through the public education

component of the program, through employee training, and through existing capabilities of the Code Enforcement Division.

Activity:	System and Outfall Mapping
Responsible Party:	GIS Mapping Department
Milestones:	Complete mapping (Year 2) Update as needed (Years 3-5)
Measurable Goal:	Maintain accurate and complete maps Dry weather screening of all outfalls as part of mapping.

Activity:	The prohibition through ordinance, or other regulatory mechanism, of non-storm water discharges into the storm sewer system, including appropriate enforcement procedures and actions
Responsible Party:	Code Enforcement
Milestones:	Review of existing authorities (Year 1) Adoption of additional authorities (Year 2)
Measurable Goal:	Adequate authorities adopted

Activity:	Develop plan to detect and address illicit discharges, including illegal dumping, into the MS4. The plan will document existing and proposed activities.
Responsible Party:	Code Enforcement staff, Pretreatment Coordinator, Building Department Official, Plan Review staff in the Engineering Department
Milestones:	Document existing and proposed activities (Year 1) Plan implementation (Years 2-5)
Measurable Goal:	Full implementation of Plan by Year 3

Activity:	Educate public employees to recognize and report problems.
Target Audience:	City employees
Milestone:	Include information into employee training (Year 2).
Measurable Goal:	Train all city employees by end of second permit year.

Activity:	Provide information about illegal dumping and citizen reporting through public education activities. Educate the public about the hazards associated with illegal discharges and improper disposal of waste.
Target Audience:	Businesses, and the general public
Responsible Party:	Public Works Department and Code Enforcement
Milestones:	Address illegal discharges through public education activities (Year 1).
Measurable Goal:	Education activities will be tracked.

Activity:	Complaint response
Responsible Party:	Code Enforcement
Milestones:	Information about how to report storm water-related problems will be incorporated into the existing Code Enforcement web page in the first year, and into other educational materials as they are developed.
Measurable Goals:	Citizen reporting of problems and complaint response activities will be tracked.

Construction Site Storm Water Runoff Control

Baseline

The City of Caldwell currently does not have a program that addresses discharges from construction sites. The City of Caldwell Stormwater Management Interim Policy, approved December 1998 addresses discharges from construction sites by requiring that "Erosion and sediment discharged from the development site must be minimized or eliminated both during construction and after the development is complete" (Section 105.1).

This Policy also references NPDES requirements for construction sites greater than five acres and requires that the Pollution Prevention Plan be provided to the City prior to any site grading. The Public Works Department has existing plan review and site inspection capabilities and field inspectors do require that sediment and erosion be controlled if it is seen as a problem in the field.

Proposed Best Management Practices

A construction site program will be established by involving stakeholders (See Public Participation discussion.) The existing Stormwater Management Policy will be reviewed to determine if it includes sufficient design requirements and enforcement authorities to address the Phase II construction site requirements. Compliance with this program can also be achieved through fines, non-monetary penalties (e.g. restoration work), stop work orders, or bonding requirements. Other program elements that will be implemented are a review and approval process for plans, inspections and enforcement.

Activity:	Evaluate adequacy of existing policy and ordinance authority.
Responsible Party:	Public Works Department
Milestones:	Evaluate existing policies and ordinances (Year 1) Develop program, including needed ordinance authority (Years 1-2)
Measurable Goal:	Adequate enforcement mechanism by end of Year 2

Activity:	Establish procedures for the receipt and consideration of information submitted by the public. This will be accomplished through the public education and complaint reporting process.
Target Audience:	General public

Responsible Party:	Public Works Department
Milestones:	Address reporting of construction site problems through public education activities (Year 1). Post information about reporting problems on the City's web site (Year 2).
Measurable Goal:	Follow-up and enforcement on all public reports

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Activity:	Program implementation including pre-construction review of construction site plans, regular inspections during construction, and procedures for site inspection and penalties for non-compliance
Responsible Party:	Public Works Department
Milestones:	Begin program implementation within 180 days of ordinance enactment.
Measurable Goal:	Complete program implementation by Year 3.

Post-Construction Storm Water Management in New Development and Redevelopment

Baseline

The Storm Drainage Ordinance (CCC 13-1) provides for the establishment and implementation of standards relating to storm drainage facilities. The standards relating to storm drainage facilities are described in the Stormwater Management Interim Policy, approved December 1998. This storm water management plan addresses flow controls, water quality protection, and erosion and sedimentation control (Section 100.2). The Policy is directed primarily at residential subdivisions, although new commercial and industrial developments are also subject to on-site detention requirements. Public infrastructure projects are also designed to adhere to this policy, when possible.

The Interim Policy addresses the management of storm water flows through the design and implementation of a control system to:

- Mitigate downstream impact from storm water flows resulting from land development activities,
- Accommodate the storm water flow from natural flooding upstream of lands and developments by providing adequate conveyance facilities through downstream sites,
- Mitigate the impacts to surface water and groundwater from contaminants in runoff caused by land development activities, and
- Control the quantity of contaminants through construction of treatment facilities.

The Caldwell City Code (CCC) also include a Landscape Ordinance (Section 10, Article 7) and Subdivision Ordinances (Section 11, Article 1) which contains provisions that apply to the Phase II storm water requirements. One of the goals of the Landscape Ordinance (CCC 10-07-02-D) is to enhance the City's environmental quality. Provisions which benefit water quality address Smart Growth (CCC10-07-02-H), tree preservation (CCC 10-07-03-G and H), the installation of common open space in residential and multi-family developments (CCC 10-07-05) and includes requirements for open space when used for stormwater detention (CCC 10-07-13).

The Subdivision Ordinance requires that drainage be addressed at the pre-application conference (CCC11-02-03.A) as part of a Development Master Plan (CCC 11-0203. C), as part of the preliminary plat review (CCC 11-02-04(4) A) and submittal (CCC 11-02-05(4) C). Article 4, Street and Utility Improvement Requirements addresses storm drainage (CCC 11-04-05(6)

and requires that drainage facilities be constructed in accordance with approved City standards.

The downtown core was developed before existing policies were in place. Any development in place and discharging to an existing storm drainage system at the time the policy was enacted may continue to discharge off site. On-site retention has been formally required at least since 1994, and as a matter of policy at least since 1992. Developments proposing to discharge to a ditch, drain or pond under the jurisdiction of another entity are subject to the review and approval of the entity operating or maintaining the ditch, drain or pond.

The Public Works Department ensures the appropriate implementation of the structural BMPs through pre-construction review of BMP designs, and inspections during construction to verify BMPs are built as designed. The responsibility for operation and maintenance of privately owned and operated retention or detention facilities must be clearly defined and noted on development plans (Interim Policy, Section 103.4). However, the City does not require that an operation and maintenance plan be submitted and the City does not conduct inspections to ensure that maintenance is being performed.

Nonstructural development controls promoted in the Caldwell Comprehensive Plan (2000) include the protection of fish and wildlife habitat, the use of greenbelts as buffer strips for the protection of surface waters and wetlands, and the incorporation of open space, recreational areas, trails and/or pathways in conjunction with clustering of housing units. The Plan also promotes infill development and requires new developments to be located in areas that have existing services and utilities or that are readily accessible.

Proposed Best Management Practices

Additional activities that will be implemented to address this minimum measure include activities to support policies included in the Comprehensive Plan, as appropriate, and development of a handbook to provide guidance for BMP design, operation and maintenance.

Activity:	Develop guidance handbook for structural controls to ensure proper design, operation and maintenance.
Responsible Party:	Public Works Department
Milestones:	Handbook completed (Year 2) Revisions, as needed (Years 3-5)
Measurable Goal:	Handbook

Activity:	Support implementation of nonstructural controls, as appropriate. Controls addressed in the Comprehensive Plan include protecting sensitive areas, maintaining and/or increasing open space; providing buffers along sensitive water bodies; and policies that encourage infill development in higher density urban areas, and areas with existing infrastructure.
Responsible Party:	Public Works and Planning Departments
Milestones:	Ongoing
Measurable Goal:	Adopt authority for additional nonstructural controls, if needed

Pollution Prevention/Good Housekeeping for Municipal Operations

Baseline

City property includes commercial properties and park properties. Municipal operations include landscape maintenance, construction activities, litter control, street and parking lot maintenance, drainage system operation and maintenance, snow removal and street sanding, vehicle fueling, equipment repair and maintenance, hydrant flushing, and well drilling. Activities with the potential to impact the MS4 include landscape maintenance including chemical application and irrigation practices, construction activities on municipal property, hydrant flushing, and well drilling.

Proposed Best Management Practices

Proposed activities include an evaluation of existing activities and identification of opportunities for enhancement, followed by the development of an Operation and Maintenance Plan. A record keeping system to document operation and maintenance activities will be created. Employee training will be provided and consist of training for new employees on the elements of the Operation and Maintenance Plan, with an annual refresher for all employees.

Activity:	Review current procedures and document ways to reduce pollution.
Responsible Party:	Public Works and Parks Departments
Milestones:	Complete review (Year 1)
Measurable Goal:	Document review findings

Activity:	Develop and implement Operation and Maintenance Plan that describes maintenance activities, maintenance schedules, inspection procedures, and waste disposal practices. The plan will include a description of controls for reducing or eliminating the discharge of pollutants from areas such as roads and parking lots, maintenance and storage yards (including salt/sand storage and snow disposal areas), and waste transfer stations.
Responsible Party:	Public Works Department, Parks Department
Milestones:	Plan development (Year 2) Plan implementation (Years 3-5)

Measurable Goal:	Successful plan implementation documented through record keeping

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Activity:	Develop record keeping system for operation and maintenance activities
Responsible Party:	Public Works and Parks Departments
Milestones:	Develop record keeping system (Year 1)
Measurable Goal:	Successful implementation of record keeping system throughout permit term

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Activity:	Employee training on pollution prevention activities
Target Audience:	Public employees
Responsible Party:	Public Works and Parks Departments
Milestones:	Training of all new employees (Ongoing) Training of existing employees (Annually)
Measurable Goal:	The number of employees trained annually

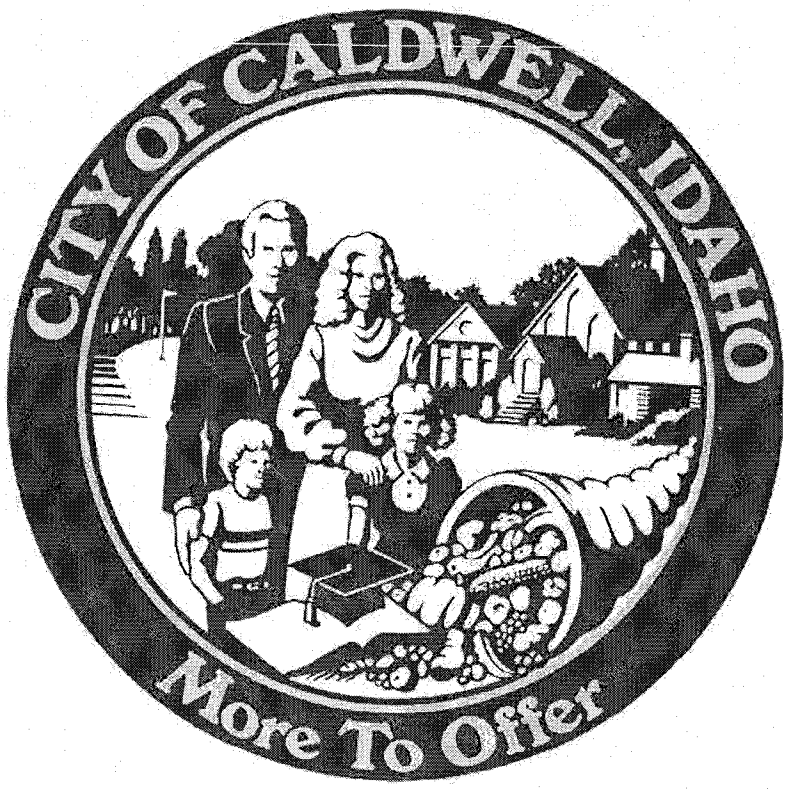
Summary and Timeframe of Proposed Storm Water Program Activities

Activity	Timeframe
Public Education	
1. Develop brochures with general information about storm water requirements for distribution by city staff, in public locations or as utility bill inserts.	Y1 – develop information Y2-5 - distribute
2. Create storm water web page	Y2 – develop, update as needed
3. Issue program press releases	As needed
4. Develop a student or other volunteer storm drain-stenciling program	Y2-5 - implement
5. Educate the few industrial and commercial stakeholders individually, as needed	As needed
Public Participation	
1. Promote community cleanup activities	Annually
2. Involve stakeholders in development of construction site program	Y1-2
3. Public meetings (Management Plan and annual program review)	Annually
4. Develop a student or other volunteer storm drain stenciling program	Y1 - develop Y2-5 - implement
Illicit Discharges	
1. Develop storm sewer system map, showing outfalls and conduct dry weather outfall screening.	Y 1-2
2. Review and strengthen authorities to address illicit connections and illegal dumping.	Y 1-2
3. Document inspection and enforcement activities through the development and implementation of and illicit discharge control plan.	Y1 - develop Y2-5 - implement
4. Educate all public employees to recognize and report problems (see pollution prevention).	Y2
5. Provide information about illegal dumping and citizen reporting through public education activities.	Ongoing
Construction Site Discharge Control	
1. Review existing authorities and develop ordinance, if necessary.	Y1-2
2. Involve stakeholders in program development (see public participation)	Y1-2
3. Develop public reporting mechanism	Y1
4. Develop program capabilities for plan review, inspection and complaint response.	Y3 – full implementation
Post-Construction Development Controls	
1. Develop handbook with guidance for design and maintenance of structural controls.	Y2
2. Implement activities to support policies included in the Comprehensive Plan, as appropriate	Implement as needed
Municipal Operations	
1. Review current procedures and document ways to reduce pollution.	Y1
2. Develop and implement O&M Plan	Y1 – develop Y3-5 – implement
3. Develop record keeping system	Y1
4. Provide employee training	Upon employment and annually

Exhibit B

CITY OF CALDWELL

ENGINEERING DEPARTMENT



CALDWELL MUNICIPAL STORMWATER MANAGEMENT MANUAL

September, 2006

Table of Contents

100 STORMWATER MANAGEMENT

100.1 GENERAL OVERVIEW

Storm water management (SWM) involves a coordinated effort to control the size and severity of floods, the impacts of water pollution events, and erosion and sedimentation problems. Previous local SWM programs have focused on FLOOD CONTROL. Idaho State and Federal EPA regulations will require a more comprehensive management program in the future.

The Idaho Legislature enacted the Ground Water Quality Protection Act of 1989. The act called for creation of a Ground Water Quality Council that is responsible for developing a Ground Water Quality Plan as well as a Ground Water Monitoring Plan. The Water Quality plan has identified urban runoff as a possible major non-point source of ground water contamination.

In 1987 a new subsection was added to the National Pollutant Discharge Elimination System (NPDES) of the Clean Water Act and EPA published implementing regulations in 1990. These regulations require control of pollutants in urban storm water discharge to surface waters, and mandate an extensive permitting process for municipal storm sewer systems. This applies to communities with populations over 100,000, such as Boise, and will apply to smaller communities such as Caldwell beginning in 2006.

For surface waters of particular concern ("water quality limited"), the State of Idaho has promulgated an "anti-degradation" policy for certain pollutants. The lower Boise River, which receives runoff from the City of Caldwell, is a "water quality limited" stream segment and is subject to the "anti-degradation" policy.

A storm water management program is needed to meet the stated objectives of State and Federal regulations. This Manual outlines the City's storm water management program, which is intended to accomplish these objectives and set up the "Best Management Practices" (BMP) for managing storm water discharge from new developments. It is expected that this manual will require modification as State and Federal regulations change.

100.2 MANAGEMENT GOALS

This storm water management plan addresses three distinct system goals: flow controls, water quality protection, and erosion and sedimentation control. These goals must be addressed for the construction phase of a development, as well as for the completed development. Existing storm drainage systems are addressed in Section 101.1.1

100.2.1 Flow Controls

Management of storm water flows involves the design and implementation of a control system to achieve the following objectives:

1. Mitigate downstream impacts from storm water flows resulting from land development activities.

2. Accommodate storm water and other flows from upstream lands and developments by providing adequate conveyance facilities through development sites.

3. Preserve use of existing drainage ways and their carrying capacity, and prevent encroachment into historic drainage ways.

100.2.2 Water Quality Protection

Management of surface water and groundwater quality involves the design and implementation of a control system to achieve the following objectives:

1. Mitigate the impacts to surface water and groundwater from contaminants in storm runoff caused by land development activities.

2. Control the quantity of water contaminants through construction of facilities that treat storm runoff.

3. Comply with the "anti-degradation" policy of the Idaho Department of Environmental Quality for pollutants of concern in the Boise River.

100.2.3 Erosion and Sedimentation Control

The management of erosion from new developments and resulting sediment load in receiving waters involves the design and implementation of a control system. The sources of sediment may be controlled through the use of diversions, ground cover, lined channels, sediment basins, sediment control structures, filtering and screening membranes, street sweeping, the elimination of dirt tracking from construction sites, or other approved methods.

100.3 LEGISLATIVE AUTHORITY

The City of Caldwell does not have exclusive responsibility for drainage in the corporate limits and impact area of the City. It does have the responsibility and authority to manage storm water in the City and its impact area that is associated with streets and roads, subdivisions, planned unit developments and

new construction. The following laws apply:

100.3.1 Idaho Constitution

The City has constitutional authority as a municipal corporation to promulgate regulations governing the discharge of storm water onto the public right-of-way or into the City's storm water system.

100.3.2 Jurisdiction and Ownership

The City has authority to control discharges into the public right-of-way or into any storm sewers or drainage facilities within the public right-of-way through its ownership of the right-of-way. (See Title 50, Idaho Code, Section 1330)

100.3.3 Flood Prevention

Title 50, Idaho Code, Section 333 gives the City authority to prevent or minimize flooding.

100.3.4 Land Use Planning Act

Title 67, Idaho Code, Section 6518 authorizes the City to adopt standards for storm drainage systems.

100.3.5 Other

This is not a comprehensive listing of all legal authority. There are other legal authorities, which the City may assert from time to time.

100.4 URBAN HYDROLOGY

As rain falls on an undeveloped watershed, some precipitation may be intercepted by trees, grass, or other vegetation. Precipitation that reaches the ground starts to fill depressions (depression storage) and infiltrates into the ground to replenish soil moisture and groundwater reservoirs. If rainfall is intense and/or of long duration, the storage and absorptive capacity of the soil is exceeded and surface runoff occurs.

As land is developed, the surfaces are graded and covered with non-porous materials. The reduced interception and depression storage causes the amount and rate of runoff from developed area to be greater than from undeveloped area. During rainfall events, the runoff may move more quickly through the drainage system due to unnatural routing of the flows and increased flow rates. Minor or major flooding may result.

It is the intent of this manual that downstream drainage systems and water quality not be adversely affected by upstream development.

100.5 REQUIRED SUBMISSION TO THE CITY FOR DRAINAGE REVIEW

Note: *Review and approval of the Drainage Report by the City of Caldwell does not constitute an engineering review of the entire project plans and calculations. The review is for the purpose of ensuring general conformance to City policies and requirements. The submitting design engineer is solely responsible for the design. All submissions to the City shall be stamped and signed by a Professional Engineer registered in the State of Idaho.*

The Drainage Report includes the basis of the design and operation of the drainage system. The report is intended to be a stand alone document. All necessary information for Drainage Report review shall be included in the report. If possible, the report should be submitted prior to the development plan submittal. For any multi-phase developments, the drainage report must include all pertinent stormwater data from other phases that drain to or accept drainage from the newer phase, including contributing drainage basins, stormwater facilities constructed previously, temporary facilities, points and routes where irrigation or drainage ways enter and leave the parcel, users of any irrigation facilities, etc. The City intends that facilities detain stormwater and discharge at the rate of one miner's inch (1/50 cfs) per acre of the drainage basin. Any proposed non-discharging retention facility is not allowed unless specifically approved by the City Engineer. The following items shall also be addressed or included in the Drainage Report:

1. Topographic survey of the development site and 100 feet beyond showing existing drainage and irrigation water conveyance systems within the site on a 24" X 36" drainage basin map. Proposed drainage basins shall be clearly defined and correlated with the calculations. Roadway grade breaks and other delineations, as needed, shall define each basin. The total parcel shall be delineated into basins, including any contributing areas upstream of the development. Existing and proposed contours (minimum of 2 foot intervals) shall be shown for the development site and shall extend 100 feet beyond the site. The following items shall be shown on the map:

    a) All existing and proposed drainage and gravity irrigation facilities (e.g., detention and retention facilities, storm sewers, swales, outlet structures, irrigation facilities, culverts, drains, etc);

    b) Any relevant floodplain boundary based on the most current information as defined by FEMA;

    c) Legend defining map symbols, North arrow, and scale bar;

    d) Locations of all soil borings or explorations.

2. Peak flow rate and runoff volume calculations shall be shown for each

defined basin. Hydraulic calculations shall be included for gutter flow, inlet capacities, pipe capacities, sand and grease trap flows and any other treatment device or conveyance.

3. Runoff volume calculations, as described above, shall be calculated for each defined basin. The entire acreage of the development plus any contributing areas shall be included in the calculations. Volume calculations and accompanying discussions shall address method of calculations as described in section 101, volumes for any storage facilities, infiltration rates where applicable, discharge flow rates where applicable and any other calculations needed to show ultimate storage, infiltration, and discharge volumes.

4. Plan, profile, and calculations of new or modified drainage and irrigation water systems, including all conveyance facilities, pipework, treatment devices, infiltration and percolation facilities, and any storage basins, inclusive, from inlet to overflow or outlet.

5. Infiltration rates where applicable. All infiltration rates shall be established at the actual location of the infiltration facility. Soil classification or percolation testing shall be utilized to establish infiltration rates. (See Section 104).

6. Seasonal high ground water table where applicable.

7. Flood routing computations for the 100-year flood through existing drainage conveyance systems and routing of the 100-year storm to the ultimate drain, storage facility, or infiltration location.

8. Copies of any associated permits and discharge agreements.

101 DESIGN OVERVIEW

101.1 GENERAL RULES

It is the presumption of this manual that a storm drainage system established for any new or modified development must conform to the capabilities and capacities of the existing downstream drainage system. It is also presumed that all upstream drainage rights shall be maintained and downstream drainage privileges shall be preserved. In addition, the following rules shall apply:

101.1.1 Grandfather Clause

The regulations contained in this manual shall not be applied retroactively. Any development (and the impervious area associated therewith) in place as of the date of enactment of this manual, and discharging to an existing storm drainage system, may continue to discharge. The addition of any impervious area greater than 1,000 square feet, subsequent to the enactment of this manual, shall be

subject to the provisions of this manual. The modification of any existing drainage system or the addition of impervious areas that tends to increase quantity or decrease quality of discharge shall constitute "development" and render the existing system subject to the provisions of this manual. The setting of storm drainage practices for City sponsored street projects within the confines of City owned right-of-way may be directed by the City Engineer.

101.1.2 Downstream Rule

It is the intent of this manual that downstream drainage systems be preserved and the system and adjacent property not be adversely affected by upstream development. It is the developer's responsibility to ensure that the runoff, storm and domestic, from a development not increase pollutant load for pollutants of concern and discharge rates not exceed a development's "reasonable" share of downstream system capacity. The City Engineer may promulgate such requirements and procedures needed to achieve this requirement.

101.1.3 Continuance of Existing Systems

Existing storm water, irrigation or drainage conveyances for upstream or downstream properties shall be continued across the development. The conveyance may be relocated within the development, but the original or relocated facility must meet the applicable requirements set forth in this manual and the requirements of any other jurisdictional entity. In no case shall a conveyance facility be reduced in size from the pre-developed condition. The City Engineer may promulgate such requirements and procedures needed to achieve this requirement.

101.1.4 Irrigation Rule

Irrigation facilities shall meet the criteria of the irrigation entity with jurisdiction over the facility. It shall be the general requirement that irrigation delivery systems not be combined with stormwater drains and that stormwater storage not be combined with irrigation return water. The design and location of irrigation facilities within public right-of-way shall be subject to the review and approval of the City Engineer.

101.1.5 Discharge Rule

Any development proposing new or increased discharge off-site, in compliance with this manual, shall notify in writing the owner of the canal, ditch, drain or pond into which discharge shall occur. In addition, the design of new discharging facilities shall be subject to the review of the entity operating or maintaining the canal, ditch, drain or pond. Any development proposing to increase the rate or reduce the quality of discharge from a site may be denied permission to discharge.

101.1.6 Engineer's Rule

The design of any drainage system shall be under the responsible direction and control of an engineer having requisite training and experience in stormwater system design. All drawings and reports shall be certified by the Engineer in responsible charge.

A drainage facility which fails to function as designed, and in conformance with this manual, shall be redesigned, reworked and/or reconstructed at the expense of the developer and the design engineer until the original design intent is met.

101.1.7 Acceptable Risk Rule

The presumption in this manual is that runoff from storms larger than the design storm is not fully accounted for. It is presumed that storms larger than the design storm may cause property damage, injury or loss of life. This manual is not intended to remove all risk.

101.2 DESIGN STORMS

The following storm conditions shall be assumed in the design of storm drainage system components:

Table I

Design Storm Frequencies	
System	**Return Frequencies**
Primary Conveyance	25 Year
Secondary Conveyance	100 Year
Upstream Drainage	100 year
Retention Storage	100 Year
Detention Storage	100 Year (25 Year)*

* In circumstances where overflow from detention facilities can be transported through a secondary conveyance system to a point of disposal, without danger to persons or property, for the 100-year storm, the detention facility can be sized for the 25-year return frequency storm.101.3 RUNOFF RATE

Determination of runoff rate for various storm conditions is important in the design of an acceptable storm drainage system. Accurate modeling of tributary area to a drainage way can be a complicated, time-consuming process. This section introduces simplified modeling methods acceptable for design. The use of the simplified modeling methods contained herein does not remove the obligation from the developer and design engineer to meet the design intent of this manual. (See 101.1.6).

101.3.1 Calculation Methodology

The peak rate of flow after development shall be determined for use

in designing conveyance components (channels, pipelines and gutters) of the drainage system. The computation of peak flows for each system shall be included in a Drainage Report. Design storm frequencies for determining peak rates are shown in Table I. See Section 102.4 for primary and secondary system definitions of the drainage system capacity.

The rate of discharge shall be calculated using the proper methodology. The peak rate for areas up to eighty acres shall be calculated using the Rational Method or approved derivatives. The Soil Conservation Service (SCS) method TR No. 55 shall be used for areas larger than eighty acres.

101.3.2 Rational Method Equation

The equation for the rational method follows:

Q = CIA (peak flow rates in cfs)
C = non-dimensional runoff coefficient
I = average rainfall intensity in inches per hour (in/hr.), over a duration equal to the time of concentration t_c for the contributing area.
t_c = time of concentration in minutes (min)
A = size of the contributing area (acres)
(1) Typical C values are shown in Table 2

Table 2

Recommended "C" Coefficients for "Rational Method Equation"
Peak Rate of Discharge **Description of Run-Off Area Runoff Coefficients "C"**

Business	
Downtown areas	0.95
Urban neighborhood areas	0.70
Residential	
Single-family	0.50
Multi-family	0.75
Residential (rural)	0.40
Apartment dwelling areas	0.70
Industrial and Commercial	
Light areas	0.80
Heavy areas	0.90
Parks, cemeteries	0.10
Playgrounds	0.20
Railroad yard areas	0.20
Unimproved areas	0.10
Streets	
Asphalt	0.95
Concrete	0.95
Brick	0.85
Gravel	0.40

Drives and walks_____0.85
Roofs_____0.95

Adapted from ASCE (1972

(1) For large areas with mixed surfaces, a weighted coefficient shall be used. Multi-lot single family residential developments shall use a coefficient of 0.50 for the entire basin area unless a higher coefficient is needed to account for a higher percentage of impervious area. Right-of-Way plus 20 feet, ROW plus 2000 square feet per lot, etc. shall not be used in calculations. Any contributing areas shall use the appropriate coefficient for foreseeable future land uses.

(2) The time of concentration (t_c) is defined as the time required for runoff to travel from the most distant point in the basin to the point of measurement. For the design storm return frequency, it is the storm duration producing the peak runoff rate. It is related to the slope and runoff coefficient and may be estimated by various methods. For overland travel distances greater than 1,000 feet, the Izzard (1946), Kirpich (1940), SCS lag equation or velocity charts (1975) may be used.

(3) Rainfall intensity shall be based upon the intensity-duration-frequency information in Table 3. It is not necessary to consider times of concentration less than 10 minutes.

Table 3

Frequency (years)						
Duration	2	5	10	25	50	100
(Minutes)	Intensity in Inches per Hour					
10	1.21	1.67	1.96	2.37	2.73	3.11
15	1.02	1.41	1.66	2.00	2.30	2.62
30	0.71	0.98	1.15	1.39	1.59	1.82
60 (1 hr)	0.45	0.62	0.73	0.88	1.01	1.15
120 (2)	0.27	0.36	0.42	0.50	0.58	0.66
180 (3)	0.20	0.27	0.32	0.37	0.43	0.48
360 (6)	0.13	0.17	0.20	0.23	0.27	0.30
720 (12)	0.08	0.11	0.13	0.15	0.18	0.19
1440 (24)	0.05	0.07	0.08	0.09	0.11	0.12

Source: NOAA Atlas 2

(4) The size of the drainage area shall include all on-site areas and any off-site lands tributary to the design point.

101.3.3 SCS TR55 Method

See SCS TR55 for application and calculation method.

(1) The time of concentration shall use the methodologies described above in Section 101.3.2. Runoff curve numbers shall be pre-approved by the City Engineer.

(2) Computer software adaptations of this method are acceptable provided their data and graphical printout are submitted for review.

101.3.4 Other Methods

Other methods of determining peak rate of flow and discharges based on sound engineering principles and with proven results may be used only if pre-approved by the City Engineer.

101.4 RUNOFF VOLUME

Runoff volumes shall be calculated for use in determining storage requirements for retention and detention facilities. Volumes shall be calculated based upon return frequencies listed in Table I.

101.4.1 Criteria for Calculating Runoff Volumes

The storm duration used for volume design shall be the duration that results in the largest storage volume requirement in a 24-hour period. Storm duration's from t_c to 24 hours shall be checked. The beneficial and reasonable contributions of offsite discharge, infiltration and percolation may be included when determining peak storage volume requirements. Volumes shall be included on the plans. Volumes and design methodology shall be shown in the Drainage Report.

101.4.2 Minimum Runoff Volume

Regardless of the method used in computing runoff, the runoff volume used for design of residential subdivisions and commercial developments shall not be less than the volume from 1-inch of runoff times the area of the road right-of-way plus any contributing impervious surfaces.

102 CONVEYANCE SYSTEM DESIGN

102.1 GENERAL OVERVIEW

A stormwater conveyance system includes any pipeline, ditch, swale, canal, borrow pit, channel, gutter, drain, creek or river having as one of its purposes the transporting of stormwater runoff. This section is devoted primarily to design of pipelines, gutters and channels and relies on the storm criteria and calculation methodologies outlined in Section 101.3.

102.2 LOCATION

Stormwater conveyance components may be located in public right-of way or on private property in easements subject to the following conditions:

102.2.1 Public Right-of-Way

Only pipelines and gutters may be located in public right-of-way. The positioning of a pipeline or gutter in right-of-way is subject to the review and approval of the City Engineer, and in all instances pipelines must maintain Idaho State mandated separations from potable water lines (10 feet-horizontal, 18 inches – vertical). Manhole rings and covers should be positioned to minimize contact with wheeled traffic and to avoid interference with sanitary sewer lines.

102.2.2 Easements

Pipelines and open channels may be located on private property if easements of adequate width for construction, maintenance and operation of the pipeline or channel are provided. The easement shall specifically exclude encroachments and obstructions (including trees and shrubs) which affect maintenance or replacement of the pipe. Required easement widths shall vary between fifteen and twenty-five feet depending on pipe depth and at the discretion of the City Engineer or as indicated in "Exhibit B. Easements running along property lines shall be situated such that the centerline of the pipe is offset at least 2.5 pipe diameters from the property line.

102.3 PIPE STANDARDS

102.3.1 Size

Pipe size shall be dictated by peak flow and hydraulic capacity. (See Sections 101.3 and 102.6.1) Minimum pipe diameter shall be twelve (12) inches. Hydraulic capacity must exceed 110% of the design peak flow.

102.3.2 Depth of Bury

The pipeline shall have a required depth of bury of at least twelve (12) inches. Additional depth may be required when traffic loading dictates the need.

102.3.3 Material

The pipeline shall be constructed of at least Class III reinforced concrete pipe or SDR 35 PVC, both with watertight joints. Higher pressure rating will be required on PVC pipe when depth of bury is less than thirty (30) inches. Other pipe materials may be acceptable with prior approval of the City Engineer and when supplied with watertight joints.

102.4 SYSTEM SIZING

102.4.1 Primary Conveyance System

The primary conveyance system shall be designed to accommodate peak flow of the design storm return frequency in Table 1. The primary system consists of catch basins, drop inlets, streets, street gutters and conduit systems. In general, the primary conveyance system should convey the design storm to the receiving waters with the maximum treatment and the minimum impact or inconvenience to the public.

102.4.2 Secondary Conveyance System

The secondary conveyance system shall be designed to accommodate the peak flow of the design storm frequency in Table 1. The secondary system conveys storm water to the receiving waters after capacity of the primary system has been exceeded. In general, the secondary conveyance system will convey the design storm to the receiving waters with some impacts and inconvenience to the public. The secondary conveyance system must be a defined, designed system that includes easements and restrictions that protect the water conveyance system in perpetuity. If these conditions are not met, the primary system must be designed to accommodate both primary and secondary flows.

102.5 MULTIPLE USE FACILITIES

Stormwater conveyances shall be designed to convey stormwater runoff from upstream areas, using both the primary and secondary systems and the design storm indicated in Table 1. The intent of this manual is to minimize the combining of stormwater and irrigation water (live or return) except in major drains, but where separation is not feasible, the conveyance facility must be sized for both flows.

102.6 CLOSED CONDUIT

102.6.1 Hydraulic Capacity

Hydraulic capacity may be calculated by various acceptable methods for closed conduits such as Hazen-Williams Formula, Darcy-Weisbach Equation and Manning Equation.

102.6.2 Velocities

Velocities in closed conduits flowing full shall not be more than eight (8) feet per second, unless the conduit is designed for higher

rates, nor less than two (2) feet per second.

102.6.3 Energy Dissipaters

Energy dissipaters shall be provided at outfalls as needed to prevent scouring of the downstream system.

102.6.4 Catch Basins

Catch basin inlets shall be designed to accommodate the design flow.

102.6.5 Siphons and Surcharged Systems

Storm drain piping (primary system) shall have free surface flow and not be surcharged up to the design storm without prior approval of the City Engineer. The storm drain system shall be free draining except for cross drain siphons.

When valley gutter cross drains are not desirable, cross drain siphons may be used, provided the "equivalent hydraulic slope" will maintain a flow in the pipe flowing full of at least three feet per second. The "equivalent hydraulic slope" is defined as the difference in elevation between gutter flow lines divided by the length of siphon.

102.7 OPEN CHANNEL

102.7.1 Hydraulic Capacity

Hydraulic capacity may be calculated by various acceptable methods for open channels such as Darcy-Weisbach Equation and Manning Equation.

102.7.2 Velocities

Velocities in open channels at design flow shall not be greater than the velocity, determined from channel conditions, to erode or scour the channel lining (generally 5 fps for an unlined channel). Super-critical velocities should be avoided. Borrow ditch conveyance facilities (if permitted) shall not be allowed on road sections where the ditch invert exceeds 3% slope without provisions for reducing velocities, such as check dams, or lining the ditch.

102.8 GUTTER CAPACITY

Street gutters may provide storm water conveyance up to their hydraulic capacity. Beyond that limit, subsurface piping or flow routing will be required to facilitate proper drainage. The minimum gutter grade shall be 0.4%. In limited circumstances, where no reasonable option exists, the City Engineer may allow a minimum gutter grade of 0.3%. Gutter flow shall be intercepted by an underground conveyance or storage system at a maximum spacing determined by gutter hydraulic capacity.

102.8.1 Hydraulic Capacity

The hydraulic capacity of irregular channels can be calculated using Manning's Equation and appropriate coefficients. Channel depth is limited in accordance with the provisions of Section 102.8.2.

102.8.2 Water Depth in Street Sections

The street section may be utilized for water conveyance as outlined below. The street section may not be utilized for storm water storage.

Primary System

For Storm events less than or equal to the design storm (see Table 1) for the primary system, the street and gutter section may be used to convey water to catchments with the following restrictions:

(1) Local Streets
Design storm flow cannot encroach into private property, or exceed 2-inch depth at the crown.

(2) Collector Streets
Design storm flow cannot overtop the curb and at least one 10-foot lane must be free of water.

(3) Arterial Streets
Design storm flow cannot overtop the curb and at least one 12-foot lane in each direction must be free of water.

Secondary System

During storm events with return frequencies for the secondary system (see Table 1), the street and gutter section may be used to convey water to a catchments with the following restrictions:

(1) Local and Collector Streets
Buildings shall not be inundated. The depth of water over the gutter flow line shall not exceed 12-inches, and shall not exceed 6-inches at the roadway crown.

(2) Arterial Streets
Buildings shall not be inundated. The depth of water at the roadway crown shall not exceed 3-inches.

102.8.3 Valley Gutters

Cross drain valley gutters are not allowed across collector and arterial streets.

102.8.4 Street Grades

Water flowing down steep grades at high velocity can be dangerous to small children. Where flow depths exceed 6-inches, mean

velocities in the gutter at peak flows shall not exceed 8-feet per second. Excessive depth and velocity shall be corrected through diversion of runoff, drop inlet structures or redesign of the street.

103 DETENTION/RETENTION FACILITIES

103.1 GENERAL DESCRIPTION

Detention or Retention facilities temporarily store stormwater runoff to minimize the potential for flooding and to partially remove sediments and pollutants from the water. Retention facilities store the runoff until it percolates, infiltrates or evaporates away. Detention facilities are similar except that a controlled discharge to an existing drainage way is also included. Detention facilities discharge any volumes larger than the water quality event. Both retention and detention facilities may have overflows through a secondary conveyance to a discharge location.

The elements of detention or retention may be incorporated into basins, swales or underground facilities such as seepage beds or french drains. The criteria for design are itemized below. Table 4 compares requirements for retention and detention facilities:

Table 4

Comparison of Retention and Detention Facility Requirements

PARAMETER	RETENTION	DETENTION
Required storm frequency Section 101.2	100 yr	100 yr or 25 year with overflow
General requirement 103.1, 103.2.1, 103.6	Only allowed if approved by City Engineer	Discharge rate one miner's inch per acre
Sand and grease traps 103.3.1	Required	Required
Other Requirements 103.6, 103.7.1	Increased volume to account for nuisance water	Rock filled trench to convey nuisance water to outlet
Emptying requirement 103.6, 103.7.6	48 hours for 2 year storm, 120 hours for design storm	120 hours
Infiltration/Percolation 103.8, 104	20 foot boring below bottom of facility	10 foot boring below bottom of facility
Infiltration facilities not allowed 104.2	Bedrock or impervious soils within 20 feet	Bedrock or impervious soils within 10 feet
Infiltration rate 104.3	67% of perc test or 50% of Soil Classification	67% of perc test or 67% of Soil Classification
Design calculation rate 104.6	Most impermeable remaining strata rate	Most impermeable remaining strata rate

103.2 GENERAL CRITERIA

103.2.1 Site Runoff

The maximum off-site discharge rate for the design storm (post development) shall be limited to 1 miner's inch (one fiftieth of a cubic

foot per second) per acre provided the downstream system has proven adequate capacity and there was historic discharge from the property.

103.2.2 Storm Return Frequency

Detention and retention facilities shall be designed for the return frequencies listed in Table I.

103.2.3 Storm Duration

For the design storm return frequency, the storm duration which produces the peak storage requirement, shall be used for design. Storm durations between the time of concentration and 24-hours shall be investigated.

103.2.4 Location of Storage Facilities

Stormwater retention and detention facilities and associated inlet piping, outlet piping and traps shall be located outside of right-of-way and on private property for single-lot developments or in a common lot for multi-lot residential or commercial developments. Exception to this manual may be allowed for multi-lot developments, less than two (2) acres in area with the approval, of the City Engineer provided that all retention or detention facilities are located within the confines of an adequately sized perpetual operation and maintenance easement, the lot on which the easement is located meets all minimum lot requirements exclusive of the easement; storage depth is not more than two feet; and side slopes are 5:1 or flatter.

103.2.5 Storm Drainage From Offsite

Single lot developments may not accept additional off-site drainage for retention or detention unless there are legal recorded documents setting forth the conditions of use and assignment of responsibility for future maintenance.

103.2.6 Multi-Use Facilities

Retention or detention facilities as approved by the City Engineer may be designed as open surface facilities for multi-use such as parks or open space as long as a public nuisance or safety hazard is not created.

103.2.7 Idaho State Code Requirements

Retention and detention facilities which incorporate absorption trenches, french drains, or any subsurface infiltration element for storm water management shall conform to Title 42, Chapter 39, Idaho Code, and to the Idaho Department of Water Resources Rules (IDWR) for Waste Disposal and Injection Wells (IDAPA 37.03.03) if required.

103.2.8 Infiltration Surface

The infiltration surface for ponds is the area of the horizontal

projection of the water surface at the design storm depth. The infiltration surface for seepage trenches is the vertical projection of the trench wall surface at design storm depth. The infiltration surface area must be reduced to the area of any infiltration windows if such are constructed.

103.3 SEDIMENT CONTROL

103.3.1 Sand and Grease Traps

Runoff into retention and detention facilities shall flow through a sand and grease trap with a throat velocity less than or equal to 0.5 feet per second for the design flow. Minimum trap detention time upstream of the throat shall be 40 seconds at peak flow for the design storm. An array of traps may be utilized to meet this criterion.

103.3.2 Sediment Storage

The design volume of underground facilities such as french drains and seepage beds shall be increased by 15% to accommodate sediment storage.

103.4 OPERATIONAL RESPONSIBILITY

The responsibility for operation and maintenance of retention or detention facilities must be clearly defined and noted on development plans. The City is not to have drainage system or landscaping operation and maintenance responsibility for any private development located on private property or in common lots.

103.5 DAMS AND EMBANKMENTS

The following criteria shall apply in the design of storage basins:

103.5.1 Freeboard

Facilities shall be designed to accommodate the runoff from a design storm with the return frequency shown on Table 1. Open basin facilities shall be designed with freeboard above the maximum design water elevation in accordance with Table 5.

TABLE 5 – FREEBOARD REQUIREMENTS

Water Depth	Freeboard
0-12 inches	4 inches
12-24 inches	6 inches
24 + inches	12 inches

103.5.2 Side Slopes

Open retention or detention facility side slopes shall not exceed 4:1 unless the facility is fenced. A fenced facility may have side slopes

no steeper than 2:1. Side slopes on facilities located in easements shall not exceed 5:1and shall meet other requirements of Section 103.2.4.

103.5.3 Embankment Top Width

The minimum top widths of all dams and embankments are listed in Table 6.

TABLE 6 – MINIMUM TOP WIDTHS	
Height (feet)	Top Width (feet)
0 – 3	6
3 – 6	8
6 – 10	10
10 – 15	12

103.5.4 Embankment Height

The design top elevation of all dams and embankments, after all settlement has taken place, shall equal or exceed the maximum water surface elevation, plus the required freeboard height. The design height of the dam or embankment is defined as the vertical distance from the top down to the bottom of the deepest cut.

103.5.5 Embankment Material

All earth fill shall be free from brush, roots, and organic material that might decompose and shall be compacted to 95% of Maximum Standard Proctor Density.

103.5.6 Safety Ledges

Safety ledges shall be constructed on the side slopes of all retention or wet detention basins having a permanent pool of water and deeper than 5-feet. The ledges shall be 4 to 6 feet in width and located about 2-1/2 to 3 feet below and 1 to 1-1/2 feet above the permanent water surface.

103.5.7 Idaho State Review

Embankments over 6-feet shall be reviewed by the Idaho Department of Water Resources.

103.6 SPECIAL CRITERIA – RETENTION

Retention facilities shall be designed to accommodate the runoff volume from the design storm with allowances for sediment and freeboard as indicated in Sections 103.3.2 and 103.5.1, respectively. For residential developments, additional volume equal to 30% of the design storm

run-off volume shall be included in the facility design volume to account for carryover from precedent storms, irrigation over-spray, and other nuisance water, i.e. car washing, etc. The facility shall be designed to empty within 48-hours for the 2-year storm, and 120-hours for the design storm. Particular detail and attention shall address nuisance water from over-irrigation, plugging of pond bottoms, or any other condition which may cause standing water in the facility over the required 120-hour drain time. For multi-lot residential developments, retention facilities are only acceptable if approved by the City Engineer.

103.6.1 Nuisance Water

Retention facility size shall be increased by 10% above the peak volume computed for the design storm to accommodate nuisance water such as sprinkler overspray. Except where a high water table does not permit it, nuisance water shall be stored in a rock trench to avoid the creation of mosquito breeding areas.

103.6.2 Carry-Over Storm

Retention facility size shall be increased 20% above the peak volume computed for the design storm to accommodate retained volume from a storm proximate in time to the design storm.

103.6.3 Retention Time

The infiltration surface shall be sized, relative to pond or trench volume, for the retention facility to empty within 120 hours for the design storm. The depth of ponds or the width of seepage trenches are limited by this requirement. The minimum top widths of all dams and embankments are listed in Table 6.

103.6.4 Overflow Drain

For property having established historical drainage rights, the retention facility shall include an overflow drainage line from the retention facility to a point of historical discharge. Pipe sizing shall be a minimum of 12 inch diameter or have capacity of two miner's inches per acre of the drainage basin, whichever is larger.

103.6.5 Proof Test.

Each constructed retention facility shall be filled to the retained depth for the design storm, soaked for four hours, refilled to retained depth and timed to completely drain. The criterion of Paragraph 103.6.3 shall be met or the pond shall be rejected. The Engineering Department shall be informed a minimum of two days in advance of proof testing and will make the final determination of approval or rejection. The preference of the City of Caldwell is that non-potable water be utilized for this test when it is reasonably available.

103.6.6 City Engineer Approval

Retention facilities in residential developments are strongly discouraged, and are only acceptable with a showing of compelling public interest and only with the approval of the City Engineer.

103.7 SPECIAL CRITERIA – DETENTION

The design of any detention facility requires consideration of several factors, such as size of the basin; minimum free board depth; maximum allowable depth of temporary ponding; recurrence interval of the storm being considered; storm duration; timing of the inflow; allowable outflow rate; and the length of time water is allowed to remain in the facility. The design goal is to leave downstream areas with the same hydrology that existed before development. Balancing the requirements is done through the preparation of three items: an inflow Hydrograph, a depth-storage relationship, and a depth-outflow relationship. These items are combined in a routing routine to determine the outflow rate, depth of stored water, and volume of storage at any specific time, as the runoff passes through the detention facility. Particular detail and attention shall address nuisance water from over-irrigation, plugging of pond bottoms, or any other condition which may cause standing water in the facility. Outlets shall be controlled through the use of an orifice inside a manhole or other approved structure. Other design considerations are discussed in the following sections.

103.7.1 Outlets

Outlet pipes shall be at least 12-inches in diameter. Orifice plates shall be used with trash racks or equivalent to prevent clogging. Facility bottoms shall be sloped to outlets. A rock filled trench shall convey nuisance water caused by over-irrigation from inlets to outlets. The pore capacity of the outlet trench shall equal the volume of storage required to contain the water quality event (103.7.6).

103.7.2 Cut-off Walls

Anti-seep cut-off walls or other seepage control methods are to be installed along outlet pipes as necessary.

103.7.3 Scour Protection

Suitable slope protection as approved by the City Engineer, shall be placed upstream and downstream of principal outlets as necessary to prevent scour and erosion. High velocity discharges require energy dissipaters.

103.7.4 Orifice Plates

Orifice plates or other flow restriction devices shall be provided to limit discharge in accordance with Section 103.2.1. The orifice opening shall be drilled into an end cap placed on the outlet pipe

such that the cap can be rotated to contain water quality events with the orifice rotated to the top. With the orifice rotated to the bottom, the basin shall have the ability to be totally drained for maintenance.

103.7.5 Emergency Spillways

Emergency spillways shall be provided to protect embankments and suitably lined to prevent scour and erosion. Emergency overflows shall not be allowed into live-water irrigation facilities without prior written permission from the owner and/or operator of the irrigation system and applicable regulatory agencies unless an historical right to drain exists.

103.7.6 Water Quality

For the purpose of protecting water quality in the receiving water, detention basins shall retain the "first-flush" of storms. At a minimum, at least 0.2" of runoff from impervious area shall be retained (not discharged off-site). In all cases, the facility should be designed to empty within 120 hours of the last storm. The retained storage depth shall not exceed one foot.

103.8 ABSORPTION DESIGNS

Any detention or retention facility that allows water to infiltrate or percolate into the ground will be considered an absorption design and must meet the requirements of this Section and Section 104.

103.9 INNOVATIVE DESIGNS

A drainage facility utilizing technology that is new, innovative or different from facilities presumed in the scope of this manual may be accepted for review and approval at the sole discretion of the City Engineer. Any facility accepted for review under this paragraph shall be evaluated to meet the full intent of this manual. Nothing in this paragraph shall be construed to require City review of any particular new or innovative design.

104 INFILTRATION/PERCOLATION FACILITIES

104.1 DESIGN OF INFILTRATION BASINS

In general, infiltration basins, for the purposes of this manual, are above ground storage facilities, such as grassy swales or ponds, intended to contain design storm runoff without overflowing. These facilities may be combined with below ground percolation facilities. They may operate as either detention or retention facilities and must meet the applicable requirements of Section 103.

The maximum probable groundwater elevation shall be established and used for facility design. Proposed facility bottom elevations within three feet of

seasonal high groundwater levels shall have a minimum 24 inch layer of well graded fine aggregate material placed such that the top surface of said fine aggregate is located at a minimum of one foot above the high water elevation. Aggregate shall meet the gradation requirements of ITD Standard Specification 703.02, "Fine Aggregate for Concrete". A site assessment of the area immediately around the proposed facility shall be conducted by a licensed Hydrogeologist or by a Professional Engineer, registered in the State of Idaho and practicing in the field of geoscience. The site assessment shall include an evaluation of the soil strata to a depth of at least twenty feet for retention facilities and at least ten feet for detention facilities below the bottom of the proposed facility to determine if the probable maximum high groundwater elevation will encroach into the facility or if impervious layers exist. No storage credit may be taken for volumes below seasonal high groundwater elevation. The site assessment shall be included in the drainage report.

104.2 INFILTRATION FACILITIES NOT ALLOWED

There are several conditions that rule out a site as an infiltration facility.

1. Bedrock or impervious soils within twenty (20) feet (retention facilities) and ten (10) feet (detention facilities) of the infiltrating surface unless the material is removed and replaced with suitable drain materials. The horizontal area of any such backfilled window shall be used for design calculations;

2. Infiltrating surface on top of fill unless the fill is clean sand or gravel and no water quality degradation will occur;

3. Surface and underlying soil of SCS Hydrologic Group C, or the saturated infiltration rate less than 0.25 inches per hour;

4. Facility located within 100-feet or within the zone of contribution of existing water well.

5. Facility located within 25 feet of a potable water main.

104.3 INFILTRATION RATES

The design of an infiltration basin is dependent on the appropriate selection of an infiltration rate. This may be determined either directly through performance of a percolation test or indirectly based on classification of soil types. Borings shall extend through the proposed infiltration facility down to twenty (20) feet (retention facilities) and ten (10) feet (detention facilities) below the bottom of the infiltration facility.

104.3.1 Percolation Test

Infiltration rate may be established using the results of a percolation

test performed in conformance with procedures outlined in Exhibit "C" and under the responsible charge of a registered Professional Engineer or licensed Hydrogeologist. The infiltration rate for design purposes is 67% of the percolation rate established in the test. Percolation tests shall be performed at the actual location and elevation of the most impermeable permanent (unexcavated) layer below the proposed facility. Percolation test results shall be included in the drainage report.

104.3.2 Soil Classification

Infiltration rate may be established using the results of soil classification of the infiltration surface. The infiltration rate for various soil types is listed in Table 4. Soil classification shall be done by a registered Professional Soils Engineer or licensed Hydrogeologist experienced in the field of geoscience. For design purposes, the infiltration rate shall be 50% (retention facilities) and 67% (detention facilities) of the listed rate in Table 7.

TABLE 7 - INFILTRATION RATES

SCS Group and Type	Infiltration Rate (Inches Per Hour)
A. Sand	8
A. Loamy Sand	2
B. Sandy Loam	1
B. Loam	0.5
C. Silt Loam	0.25*
C. Sandy Clay Loam	0.15
D. Clay Loam & Silty Clay Loam	<0.09
D. Clays	<0.05

* Minimum rate, soils with lesser rates shall not be considered as candidates for infiltration facilities.

104.4 DESIGN OF PERCOLATION FACILITIES

In general percolation facilities are below ground storage facilities such as french drains or seepage beds that may be designed to store the design storm runoff above and/or below ground. The water may be stored within structural cavities or in the pore space of granular fill before it percolates into the ground through a sand filter. The percolation facility must meet the applicable requirements of Section 103.

If there is not a positive outflow, or retention exceeds 25% of storage, percolation facilities shall be designed as a retention facility, including the criterion listed in Section 103.6.

The storage volume shall accommodate the design storm, plus comply with Section 103.3.2 regarding sedimentation, Section 103.6.1 regarding nuisance water, and Section 103.6.2 regarding carry-over storms. Infiltration rates are covered in Section 104.3. Accepted engineering design formulae shall be used in determining storage volumes and infiltration rates.

104.4.1 Sand Filter

A minimum 12-inch layer of fine aggregate material shall be placed below all percolation facilities and a minimum 24 inch layer of fine aggregate material shall be placed below all percolation facilities within three feet of the high water table. The top surface of said fine aggregate shall be located at a minimum of one foot above the high water elevation. The fine aggregate material shall meet the gradation requirements of ITD Standard Specification 703.2, "Fine Aggregate for Concrete".

104.4.2 Filter Fabric

The facility shall have an approved filter fabric (4 oz/square yard) placed between the storage media and the surrounding soil. No filter fabric need be placed between the storage media and the sand filter.

104.5 PERCOLATION FACILITIES NOT ALLOWED

There are several conditions that rule out a site for a percolation facility. If any of the conditions described in Section 104.2 exist, disposal of storm water by percolation is not permitted.

104.6 SOIL STRATA CHARACTERISTICS

Soil borings or test pits shall be taken at the trench sites to classify soil types. When the soil strata has varying infiltration characteristics, the minimum or most impermeable rate for any remaining unexcavated soil strata shall be used for design calculations. The pond bottom or the area of any excavation window, whichever is less, shall be used for design calculations. The infiltration rates described in Table 4 shall apply. A percolation test may be used to define infiltration rates instead of Table 4.

104.7 MATERIALS

Table 8 indicates the effective void volume for typical materials used in seepage beds. The Design Engineer may determine void volumes for other materials by laboratory analysis and submit them to the City Engineer for review. The sand filter pore volume may not be used as storage volume for the facility. No storage may be allowed for pore volume below the water table.

TABLE 8 VOID VOLUME OF TYPICAL MATERIALS	
Material	**Volume (%)**
Blasted Rock	30
Uniform sized gravel (1-1/2")	40
Graded gravel (3/4" minus)	30
Sand	25
Pit run gravel	20

105 MISCELLANEOUS SPECIFICATIONS

105.1 EROSION AND SEDIMENT CONTROL

Erosion and sediment discharged from the development site must be minimized or eliminated both during construction and after the development is complete. Properly designed developments utilize ground covers, lined ditches, riprap, and underground piping systems to eliminate erosion and control sediment.

Prior to the beginning of construction, where construction activities disturb more than one acre, the developer or his representative must have a Stormwater Pollution Prevention Plan (SWPPP) in place and must file a Notice of Intent (NOI) with the EPA, in accordance with NPDES (National Pollutant Discharge Elimination System) requirements. The SWPPP will include provisions for reducing sediment discharges from the construction site and tracking of mud onto roadways. A copy of this plan and the NOI shall be provided to the City prior to any site grading.

105.2 IRRIGATION AND DRAINAGE FACILITIES

Stormwater conveyance and storage facilities shall be separate and distinct from non-storm systems such as irrigation, irrigation return, underdrain, and sanitary sewer flows with the exception of landscape or irrigation overspray. Existing non-storm systems rerouted or piped through new developments (except sanitary sewers) shall not be located in the public right-of-way except at crossings. These systems should be located in individual easements. Systems routed through new developments shall not utilize development conveyance or other stormwater facilities upstream of any storage, detention, or retention. Systems routed through new developments

may utilize conveyance downstream from any storage, detention, or retention facilities. Approved discharges of storm drain facilities into non-storm systems shall be at centralized, distinct locations. Stormwater system conveyance piping shall not be utilized for land drainage systems.

105.3 DESIGN SPECIFICATIONS

This section sets forth the minimum standards, specifications, standard details, etc. to be used for the design of storm water and drainage facilities. Except as modified herein, all work shall be in accordance with the current IDAHO STANDARDS FOR PUBLIC WORKS CONSTRUCTION (ISPWC).

105.3.1 Discharge Pipes

All discharge pipes shall end in a precast concrete or corrugated metal end section or a cast-in-place concrete headwall. Wingwalls and energy dissipaters shall be included when conditions require.

105.3.2 Testing

The City Engineer may require testing (such as the mandrel or air test) beyond the requirements of ISPWC as needed to ensure proper installation of pipe.

105.3.3 Manhole Design Standard

Manholes shall be designed according to the latest edition of ISPWC.

105.3.4 Manhole Spacing

Manholes shall be provided at all intersections of two or more pipe segments and at all locations where the pipe changes direction. Manhole spacing shall not exceed 400 feet.

105.3.5 Manhole Frames and Covers

Manhole frames and covers shall be cast iron conforming to specification ASTM A 48 Class 30. They shall be suitable for HS-25 loading capacity. All storm drain manhole covers shall have a cast-in-place concrete collar (SD-508A), and the words "STORM DRAIN" cast integrally in the top of the cover. Manhole covers shall be set within 1-foot of finished grade. The manhole cover shall be flush with the finished grade.

Concrete collars shall be placed after paving is complete.

105.3.6 Catch Basins

Catch basins located within street right-of-way shall be Type II or Type IV (per ISPWC SD-602B, SD-601, or SD-602D) with a 1-foot sump.

Catch basin grates and frames shall be welded steel, capable of an

HS-25 loading.

Catch basins located outside of street right-of-way may be Type I, II, III, or IV.

All construction shall be in accordance with Section 606 of ISPWC.

106 INSPECTION and CERTIFICATION REQUIREMENTS

106.1 POST-CONSTRUCTION SUBMISSIONS

Prior to final acceptance of the development, record or as-built drawing in hard copy form must be submitted to the City.

EXHIBIT "A"

STANDARD PERCOLATION TEST

The use of the percolation test is to be used in conjunction with a site survey and soil profile analysis. It is not to be used as the sole determiner of a proposed disposal site's infiltrative capability. The following outlines a procedure for making a standard percolation test.

1. Dig or bore a hole with horizontal dimensions of six (6) to eight (8) inches and with vertical sides to a depth of at least eight (8) inches in the zone of anticipated soil absorption.

2. Carefully scarify the bottom and sides of the hole with a knife or other device to remove any smeared surfaces.

3. Place about one (1) inch of coarse sand in the bottom of the hole to prevent scouring and sediment. A small section of standard four-inch diameter perforated drainpipe is handy to prevent water splash on the hole sidewall.

4. Fill the hole with at least eight (8) inches of water and allow the soil to presoak at least twenty four (24) hours. If the soil contains greater than 27% clay the soak period shall be extended to 48 hours. The water must be clear, free of organics, clay or high sodium content.

5. Measurement procedure. In soils where:

   (a) Water remains in the hole after the presoak period; adjust the water depth to six (6) inches. Measure the drop in water level every thirty (30) minutes. Continue the test until the last reading is the same as the previous reading or four (4) hours, whichever occurs first.

   (b) No water remains in the hole after the presoak period, add water to bring the depth to six (6) inches. Measure the drop in (30) minute intervals, refilling the hole to the six (6) inch depth after each thirty (30) minute reading. Continue the test until the last reading is the same as the previous reading or four (4) hours, whichever occurs first.

   (c) The first six (6) inches of water soaks away in less than thirty (30) minutes, the time interval between measurements should be ten (10) minutes.

6. Calculations:

$$\text{Percolation Rate, Minutes/inch} = \frac{\text{Time, in Minutes}}{\text{Water Drop, in Inches}}$$

7. At least two percolation tests should be run on each site, one test at each end of the proposed facility, in the zone of the most impervious soil layer.

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Exhibit C

Moffatt Thomas

MOFFATT THOMAS BARRETT ROCK & FIELDS, CHTD.

Boise
Idaho Falls
Pocatello
Twin Falls

Eugene C. Thomas
John W. Barrett
R. B. Rock
Richard C. Fields
John S. Simko
John C. Ward
D. James Manning
David B. Lincoln
Gary T. Dance
Larry C. Hunter
Randall A. Peterman
Mark S. Prusynski
Stephen R. Thomas
Glenna M. Christensen
Gerald T. Husch
Scott L. Campbell
Robert B. Burns

Michael E. Thomas
Patricia M. Olsson
Christine E. Nicholas
Bradley J Williams
Lee Radford
Michael O. Roe
Nancy J. Garrett
David S. Jensen
James L. Martin
C. Clayton Gill
Michael W. McGreaham
David P. Gardner
Tara Martens
Mark C. Peterson
Julian E. Gabiola
Kimberly D. Evans Ross
Jason G. Murray

Jon A. Stenquist
Tyler J. Anderson
Paul D. McFarlane
Tyler J. Henderson
C. Edward Cather III
Michelle C. Michaud *
Andrew J. Waldera
Dylan B. Lawrence
Benjamin C. Ritchie
Rebecca A. Rainey
Andrew J. Snook
Matthew J. McGee
** licensed in WA, ID application pending*
Robert E. Bakes, *of counsel*

Willis C. Moffatt, 1907-1980
Kirk R. Helvie, 1956-2003

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October 20, 2008

Misha Vakoc
Manager, NPDES Permits Unit
United States EPA - Region 10
1200 Sixth Avenue, Suite 900
OWW-130
Seattle, Washington 98101

COPY

Re: Pioneer Irrigation District
Comments on NPDES Permit Number IDS-028118
MTBR&F File No. 18946.0059

Dear Ms. Vakoc:

This correspondence is in response to the United States Environmental Protection Agency's ("EPA") requests for public comment on proposed NPDES Permit Number IDS-028118 ("Permit"), authorizing the discharge of storm water from all municipal separate storm sewer system ("MS4") outfalls owned and operated by the City of Caldwell ("Caldwell"). These comments are provided on behalf of the Pioneer Irrigation District ("Pioneer").

Pioneer is located in the Boise River Valley of southwest Idaho. It delivers irrigation water and performs irrigation drainage functions to approximately 34,000 acres in Canyon County, including large portions of Caldwell. Pioneer provides irrigation water to highly productive farmland and urban areas. The farmland would not produce agricultural products absent irrigation, and many urban residents and municipalities rely on Pioneer to supply irrigation water.

Pioneer organized in 1903 and has the distinction of being one of the first irrigation districts formed in Idaho after the Idaho legislature enacted statutes allowing the creation of irrigation districts. As an early irrigation district, Pioneer was a leader in the effort to create the Boise Irrigation Project, including Arrowrock Dam and Reservoir and Anderson Ranch Dam and Reservoir. Pioneer diverts water from the Boise River under the authority of natural flow water rights. Pioneer also holds water rights and related storage contracts with the United States Bureau of Reclamation for water from Arrowrock Dam and Reservoir, Anderson Ranch Dam and Reservoir, and Lucky Peak Dam and Reservoir.

Client:999605.2

FILE

Pioneer's comments focus first on the requirements and effect of the proposed issuance of Permit, and second on the breadth, scope, and adequacy of the control measures outlined in Part II.B. of the Permit.

Pioneer notes the clear language in the Permit recognizing that it "does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of state or local laws or regulations." *Permit, VI.H.* The Idaho Department of Environmental Quality ("IDEQ") also recognized that its certification does not affect the private property rights of others when it stated that the Permit's certification "does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations or permits, including without limitation, the ***approval from the owner of a private water conveyance system***, if one is required, to use the system in connection with the permitted activities." Idaho Department of Environmental Quality, Draft Clean Water Act § 401 Certification (emphasis added).

It is clear that the scope of the Permit, and the certification thereof, is expressly limited to property over which Caldwell has legal jurisdiction or authority and that EPA and IDEQ will not offer any opinions regarding disputes about such jurisdiction or authority. However, Pioneer wishes to make both IDEQ and EPA aware of its situation because it clearly affects further implementation and continued development of Caldwell's storm water management program ("SWMP") in accordance with the Permit.

Pioneer's property rights are well-recognized and firmly established in the law of the State of Idaho. In addition to clear property interests created under the Common Law by continuous, open use, under claim of right, Pioneer's property rights have been confirmed and reinforced by statutory enactment.

Title 42 of the Idaho Code confirms and grants rights-of-way for irrigation facilities and provides that the existence of a "visible ditch, canal or conduit shall constitute notice to the owner, or any subsequent purchaser, of the underlying servient estate" that Pioneer "has the right-of-way and the incidental rights confirmed or granted by this section." I.C. § 42-1102. Such rights-of-way are "essential for the operations of the ditches, canals, and conduits." *Id.* Accordingly, "[n]o person or entity shall cause or permit any encroachments onto the right-of-way . . . without the written permission of the owner of the right-of-way, in order to ensure that any such encroachments will not unreasonably or materially interfere with the use and enjoyment of the right-of-way." *Id.*

The importance and sanctity of Pioneer's property rights are further underscored in Idaho Code Sections 42-1207, 42-1208, and 42-1209, which provide irrigation entities with broad legal rights and protection from interference. Changes to the land across which ditches, canals, drains, or conduits run are prohibited if they injure any person with interests in those ditches,

canals, drains, or conduits. I.C. § 42-1207. The easements and rights-of-way of irrigation districts are not subject to adverse possession. I.C. § 42-1208. Finally, pursuant to Idaho Code Section 42-1209, "no person or entity shall cause or permit any encroachments onto the easements or rights-of-way [of an irrigation district] without [its] written permission." I.C. § 42-1209.

These protections are necessary in light of the duties and obligations imposed upon irrigation entities. Pioneer must maintain its ditches, canals, and conduits "in good order and repair, ready to deliver water." I.C. § 42-1202. It must "keep and maintain the embankments thereof in good repair" to avoid wasting water during irrigation season. I.C. § 42-1203. Pioneer must also avoid permitting "a greater quantity of water to be turned into [the] ditch, canal or conduit than the banks thereof will easily contain." *Id.* Finally, Pioneer must maintain its ditches, canals, and conduits "in good repair and condition, so as not to damage or in any way injure the property or premises of others." I.C. § 42-1204.

Because of the broad scope of both Pioneer's rights and responsibilities as an irrigation entity, it has actively prohibited any encroachments into its easements and rights-of-way without express written authorization. Nonetheless, Caldwell has passed an ordinance enacting a Storm Water Management Plan ("SWMP") which authorizes the construction of storm water discharge outfalls in the easements, rights-of-way, and facilities owned, operated, and maintained by Pioneer. Caldwell's use of Pioneer's facilities conflicts with the purposes for which those facilities were created, and interferes with the proper operation and maintenance of those facilities.

It appears that the adopted SWMP will act as the foundation for compliance with the Permit. Therefore, Pioneer requests that EPA modify the Permit to clearly state that the requirements and control measures imposed on Caldwell by EPA's issuance of the Permit are not an affirmative grant of power over Pioneer or its facilities. Pioneer will not permit Caldwell to take any action in its efforts to conform with Permit requirements over which Caldwell does not have jurisdiction or authority to take.[1] Specifically, Pioneer requests that explicit limitations be included in the Permit to ensure compliance with state right-of-way and property law. The following language should be included in the Permit conditions: ***No discharges are authorized by this Permit to constructed waterways, owned, operated, or maintained by irrigation entities.***

[1] Pioneer takes the same position with respect to any other entities seeking NPDES Permits from EPA for stormwater discharge that may affect Pioneer's rights and/or obligations. Specifically, Pioneer notes that it will not permit Caldwell or Nampa to take any action affecting Pioneer facilities that it does not have the authority to take in an effort to conform with the requirements of proposed Permit Number IDS-028126.

Pioneer believes that Caldwell already exceeds, and will continue to exceed, its authorization under the Permit because Caldwell is not authorized to "discharge storm water that will cause, or have the reasonable potential to cause or contribute to, violations of the Idaho water quality standards." *Permit, I.C.2.* The impact of municipal storm water runoff on water quality is of increasing concern. EPA has recognized that "[w]aterways and receiving waters near urban and suburban areas are often adversely affected by urban storm water runoff." EPA, Preliminary Data Summary of Urban Storm Water Best Management Practices, 1-1 (August 1999). These adverse effects include increased rates of sediment transport, loss of sensitive aquatic species, and risks to public health and recreation. *Id.*; *see also* IDEQ, Storm Water Best Management Practices Catalog at 2.1 (September 2005).

According to IDEQ's water quality standards, Pioneer's water supply is designated for agricultural use and, as such, water quality should be "appropriate for the irrigation of crops or as drinking water for livestock." *See* IDAPA 58.01.02.100.03.b. In addition, Pioneer's water supply is also increasingly used for the irrigation of residential and urban lands (such as parks, schools, yards, and playgrounds).

Under Caldwell's existing SWMP, developers of residential property are permitted to discharge municipal storm water into a natural or man-made drainage way simply by giving notice. In some circumstances, no notice is required at all and since enactment of the existing SWMP, discharge points have been constructed to discharge municipal storm water into Pioneer's facilities without Pioneer's permission. Such discharges violate Idaho water quality standards. State standards demand that "[n]o pollutant shall be discharged from a single source or in combination with pollutants discharged from other sources in concentrations or in a manner that . . . [w]ill injure designated or existing beneficial uses." IDAPA 58.01.02.080.01.b. Pioneer believes municipal storm water discharges into its facilities compromise water quality for the purposes of agriculture, residential landscaping, and secondary potential contact.

Furthermore, IDEQ water quality standards require that "man-made waterways are to be protected for the use for which they were developed." IDAPA 58.01.02.101.02. Pioneer's man-made waterways were developed for irrigation and agricultural return flows only. Thus, Pioneer's facilities must be protected from any conflicting use Caldwell might authorize in the development or implementation of its Permit-compliant SWMP. Currently, the SWMP and Caldwell's practices violate IDEQ water quality standards because of the adverse water quality impacts of municipal storm water discharges upon irrigation water uses.

Pioneer requests that EPA recognize the practical burden that Caldwell's existing SWMP (and any future iteration which permits discharge into Pioneer facilities) places on Pioneer. In addition to Caldwell's encroachment into Pioneer's irrigation easements and rights-of-way, producing water quality violations, Caldwell's SWMP dramatically increases flood risks for Pioneer and greatly burdens seasonal maintenance of its facilities. Many of Pioneer's facilities

were constructed more than a century ago for delivery of seasonal irrigation and agricultural return flows. They were not designed or constructed for year-round municipal storm water drainage.

Subjecting Pioneer facilities to the demands of municipal storm water prevents it from performing routine off-season maintenance and improvements that require its facilities be devoid of water. In addition, the increased impervious surfaces involved in the expansive urbanization of Caldwell prevent natural percolation and evaporation and increase the risk of flooding in Pioneer waterways. *See* IDEQ, Storm Water Best Management Practices Catalog at 2.1 (September 2005). The Permit must not authorize use of Caldwell's SWMP because it increases the risk of property damage and poses an immediate danger to human life or aquatic wildlife. It impermissibly shifts those liabilities and burdens from Caldwell to Pioneer. *See, e.g.*, I.C. §§ 42-1202, 42-1203, and 42-1204.

Pioneer maintains that EPA's issuance of the Permit invalidly exposes Pioneer to liability under the Clean Water Act. The Clean Water Act ("CWA"), 33 U.S.C. § 1251, *et seq.*, prohibits point source discharges of pollutants into waters of the United States without a proper NPDES permit. CWA § 402. Pioneer is exempt from NPDES program jurisdiction because agricultural return flows are exempt from the CWA's permitting requirements if discharges are "composed entirely of return flows from irrigated agriculture." *Id.* at § 402(l). Pursuant to the Caldwell's SWMP, developers have installed multiple points of municipal storm water discharge into Pioneer's irrigation and drainage facilities without authorization. Caldwell's SWMP and the Permit will jeopardize Pioneer's protections under the agricultural return flow exemption.

Pioneer will now comment on the control measures outlined in Part II.B of the Permit. Parts II.B.1 and II.B.2 of the Permit require Caldwell to develop and implement a public education program and involve interested stakeholders in the development of a SWMP. To the extent Caldwell has already implemented a SWMP, it has demonstrated a high level of disregard for a large group of interested stakeholders, including Pioneer, and has consistently taken action that primarily benefits commercial and residential development interests. Caldwell has failed to effectively involve, educate, and notify Pioneer and its customers. That failure is particularly egregious in light of the fact that, pursuant to the Caldwell's SWMP, developers have installed multiple points of municipal storm water discharge into Pioneer's irrigation and drainage facilities without authorization.

Pioneer requests EPA to modify the Permit to require Caldwell to more effectively educate and address stakeholders about the environmental impacts of municipal storm water discharges, and about the impacts of these discharges upon the legal rights of others. Pioneer submits that a more prominent component of public education and involvement should involve notice to stakeholders that any Permit issued does not authorize Caldwell to utilize the property of others in the implementation of a SWMP.

EPA states that "[b]road public support is crucial to the success of a SWMP because citizens who participate in the development and decision-making process may be less likely to raise legal challenges to the SWMP and are more likely to take an active role in its implementation." Fact Sheet for NPDES Permit No. IDS-028118, 16. Caldwell's plan to "engage stakeholders" has been so poorly executed that Pioneer's only means of engagement has been to seek redress via litigation over actions taken pursuant to the existing SWMP.

Pioneer has no reason to believe that the issuance of the Permit will foster cooperation or more respect for Pioneer's rights and obligations. Moreover, Pioneer believes final issuance of the Permit will encourage Caldwell to take further unilateral actions against the interests of Pioneer and its customers. This is likely unless EPA issues a revised Permit which delineates the integrity of Pioneer's private property rights, confirms the integrity of the CWA agricultural return flow exemption, and emphasizes that any actions undertaken in conjunction with the permit must not conflict with these rights.

Part II.B.3 of the Permit requires Caldwell to develop and implement illicit discharge detection and elimination activities. Caldwell has operated under some form of the existing SWMP since 1998 and in that time has failed to institute an effective regulatory mechanism for illicit discharge as it pertains to anything but Caldwell's publically-owned treatment works. Particularly, Caldwell has failed to provide adequate regulation of illicit discharge into the drainage and irrigation facilities operated by Pioneer. That failure burdens Pioneer and endangers thousands of Pioneer customers because discharge points authorized by the existing SWMP and maintained by Caldwell empty into Pioneer facilities. Pollution that may result from illicit discharge substantially interferes with the intended beneficial use of Pioneer facilities, and more importantly, directly and indirectly threatens aquatic, wildlife, and human health.

Over the course of ten years, Caldwell has made no effort to meaningfully regulate illicit discharges as it pertains to urban storm water, despite clear danger and complaints. Pioneer submits that such a desertion of public duty evidences a lack of good faith in Caldwell's application for Permit and its development of a comprehensive SWMP. Pioneer requests EPA's consideration of the potential liabilities and risks that Caldwell's shortcomings have and will continue to place on Pioneer and its customers. In addition, Pioneer requests EPA's acknowledgement that Caldwell's improper utilization of Pioneer's property in the implementation of a SWMP, including illicit discharge detection and elimination activities, will not be authorized or condoned by EPA's issuance of the Permit.

Parts II.B.4 and II.B.5 of Permit require Caldwell to develop and implement construction site control activities and post-construction storm water management in new development and redevelopment. The population growth of Caldwell has led to increased impervious surfaces like asphalt and concrete and Caldwell has not yet implemented policies adequate to safeguard

against the dangers that high volume runoff and municipal storm water pollutants present to Pioneer and Pioneer customers. Instead of responding to urban growth with more responsible planning and standards for lower impact development, Caldwell has implemented a policy that enables and encourages developers to shift the burdens and liabilities of urban storm water planning, control, and maintenance from Caldwell to Pioneer.

Again, Caldwell's administration and implementation of the existing SWMP provides Pioneer with little hope that Caldwell will handle construction site control activities and post-construction storm water management under the Permit with any more consideration for the interests of stakeholders like Pioneer than it has in the past, especially in light of Caldwell's policy that is currently in place. Pioneer asks that EPA consider how the existing narrative limitations and requirements of the Permit will incentivize a more pro-active approach to construction site control and post-construction storm water management when EPA approves continued development of a SWMP that provides for unauthorized storm water discharge onto the private property of others. Pioneer requests EPA's acknowledgement that EPA is not authorizing Caldwell to utilize Pioneer's property in construction site control activities or in the implementation of post-construction storm water management.

To conclude, Pioneer reiterates that it will not tolerate the unauthorized use of its easements and rights-of-way to allow Caldwell's implementation of the Permit SWMP. While EPA clearly has the authority to require Caldwell's compliance with the Permit, it does not have the authority to require Pioneer's compliance with the Permit or to preempt state law governing Pioneer's rights and obligations. Because Caldwell has not effectively addressed Pioneer's valid stakeholder concerns regarding property rights, flood damage, environmental risks, and tort liability, these concerns should be more prominently addressed in any response EPA may have to these Comments and in the Permit itself.

Thank you for the opportunity to provide written comment in this critical matter. Please direct all notifications and communications to me at the address listed above.

Very truly yours,

Scott L. Campbell

SLC/dll
cc: Pioneer Irrigation District
Maria Lopez, US EPA, Region 10
Pete Wagner, Regional Administrator, Idaho DEQ
Mark Hilty, Caldwell City Attorney

Exhibit D

IN THE DISTRICT COURT OF THE THIRD JUDICIAL
DISTRICT OF THE STATE OF IDAHO,
IN AND FOR THE COUNTY OF CANYON

PIONEER IRRIGATION DISTRICT,)
)
Plaintiff,)
)
vs.) Case No. CV 08-556-C
)
CITY OF CALDWELL,)
)
Defendant.)
)
_____)
)
CITY OF CALDWELL,)
)
Counterclaimant,)
)
vs.)
)
PIONEER IRRIGATION DISTRICT,)
)
Counterdefendant.)
_____)

DEPOSITION OF GORDON LAW
JULY 23, 2009
Boise, Idaho

JEFF LaMAR, C.S.R. No. 640

DEPOSITION OF GORDON LAW

BE IT REMEMBERED that the deposition of GORDON LAW was taken by the Plaintiff/Counterdefendant at the law offices of Moffatt, Thomas, Barrett, Rock & Fields, Chartered, located at 101 South Capitol Boulevard, 10th Floor, Boise, Idaho, before Jeff LaMar, a Court Reporter and Notary Public in and for the County of Ada, State of Idaho, on Thursday, the 23rd day of July, 2009, commencing at the hour of 9:03 a.m. in the above-entitled matter.

APPEARANCES:

For the Plaintiff/Counterdefendant:

MOFFATT, THOMAS, BARRETT, ROCK & FIELDS, CHARTERED
By: Bradley J. Williams, Esq.
Scott L. Campbell, Esq.
101 South Capitol Boulevard, 10th Floor
Post Office Box 829
Boise, Idaho 83701
Telephone: (208)345-2000
Facsimile: (208)385-5384
bjw@moffatt.com

For the Defendant/Counterclaimant:

HAMILTON, MICHAELSON & HILTY, LLP
By: Mark R. Hilty, Esq.
1301 12th Avenue Road
Post Office Box 65
Nampa, Idaho 83653
Telephone: (208)467-4479
Facsimile: (208)467-3058
mhilty@nampalaw.com

APPEARANCES (Continued):

Also Present:
Will Mason

INDEX
EXAMINATION

EXHIBITS

want to read the whole paragraph or even what comes before that. I don't want it suggested that I took this out of context. So please take a moment and look at that if you need to.

A. (Reviews.)

The question?

Q. The question is, with respect to that last sentence that "Proposed developments proposing to discharge to a ditch, drain, or pond under the jurisdiction of another entity are subject to review and approval of the entity operating or maintaining the ditch, drain, or pond," is that a true and accurate statement as of this date here, to your knowledge?

A. No.

MR. HILTY: Object to form.

Q. (BY MR. WILLIAMS): "No"?

A. No.

Q. Do you know what the basis for Ms. Meitl's conclusion is, or the source of that information?

A. I have no idea.

Q. But you disagree with it, as you've said before?

A. Yes.

Q. You thought it was just a courtesy to seek their approval, but not a legal requirement?

A. (No audible response.)

Q. All right. Through with that.

MR. HILTY: Are you skipping over 19, Brad?

MR. WILLIAMS: Yeah, that pretty much had the same...

(Deposition Exhibit No. 21 was marked.)

Q. (BY MR. WILLIAMS): Well, this is -- some of these are the same. This one looks like it's the draft compliance assessment. But it had a different cover page. This is how it came to us out of your file. So I don't know if it's the same thing as before. But actually, what the difference is, this one has some handwritten notes that I wanted to ask you about.

But take a minute and look at the first page. You can see it's Joan writing to you on January 2nd. She's including a copy of the storm water compliance report for your review.

And then if you'll turn into that a couple pages, you'll start to see handwritten notes. And you can see on page 2 it looks like it says "Emphasize."

Is that your handwriting?

A. I can't tell.

Is there a longer note in their somewhere where we can --

Q. The next page actually has more handwriting. I don't know if you can identify that as your handwriting.

A. That looks like my handwriting.

Q. Okay. Assuming the previous page is yours as well, then, and there aren't two people making notes on this, do you have a recollection of why you wrote the word "emphasize" next to the sentence about the "...bacteria derived from dogs, cat feces, ducks, geese"? What made you emphasize that with regard to that sentence?

A. It's actually not referring to the dog and cat statement. It's referring to the ducks and geese statement.

Q. Oh, okay. What was your point there?

A. Not many ducks and geese in cities.

Q. Okay. You haven't been to Idaho Falls lately.

A. That's also correct.

Q. Next page, handwritten notes. The second one there, "Runoff separate from irrigation," what did you mean by that, if you

remember?

A. I could only guess it refers to a provision in the Interim Storm Water Policy Manual concerning keeping irrigation and storm water runoff separate insofar as the storage facilities are concerned.

Q. Okay.

A. Are we moving to another one now?

Q. Yeah. You can put that one away.

(Deposition Exhibit No. 22 was marked.)

Q. (BY MR. WILLIAMS): Okay. Have you had a chance to look at that, at least at that front page, to recall what this is?

A. I think it's a memorandum to counsel concerning a copy of an application for permit, which I assume is the NPDES permit.

Q. Uh-huh. So eventually Joan prepared your application; correct?

A. Yes.

Q. And that was eventually submitted as your formal application, which you reviewed, approved, and recommended; true?

A. Yes.

Q. Page 2, just real quickly, lists a number of drains where storm water runs off:

Q. Is that refreshing a recollection?
A. You're probably going to have to give me a few more details.
Q. That the gist -- the upshot of the conversation was the developer is coming to you -- coming to you and Jeff and saying "I'm caught between a rock and a hard place. Pioneer says I can't discharge, you say I must. What do I do?"
And then apparently, according to Brent, Jeff Scott said something to the effect "Go ahead and discharge, just don't ask us to do it on paper because we have to say no."
And I'm wondering if you recall such a conversation, and if that is your recollection of it as well?
A. The issue of discharging without disclosing to Pioneer was actually something that came up in a meeting between me and the board.
Q. Uh-huh.
A. And Scott Campbell and Naida Kelleher and Jeff Scott was there.
Q. And I think I've seen those minutes. They're somewhere in my stack. But you tell me your recollection, and then I'll see if I can find that document real quickly.

A. During the course of the meeting, they emphasized over and over again that they could not be seen as approving, regardless of whether we discharged or not. And I can't say who suggested it, but somewhere in the course of that meeting the idea was presented of that if we didn't include that item in our submitted plans to Pioneer, then that would not create a problem for them to be seen approving.
So we went out of that meeting with the intent that that's what the City of Caldwell would do to protect whatever interests they thought they were protecting.
And subsequent to that there were conversations that involved Jeff Scott regarding the continuation of that practice or policy.
Q. Okay. Let me go back to that meeting.
When did that meeting occur with the board that you've just described?
A. I'm thinking it was somewhere around the time that the -- I'm thinking the emergency policy was adopted.
Q. About March of '06? Does that --
A. That's probably the case. I wouldn't dispute it.

Q. Okay. How did the meeting come about?
A. I think I may have even requested the meeting.
Q. Okay. Did you review any notes or documents, minutes of that meeting in preparation for your deposition today?
A. I looked through a number of documents, and I think I testified this morning that among those were two, three sets of minutes of Pioneer Irrigation District and some minutes of City -- of Caldwell City Council.
Q. Okay. And that was among them, this special meeting that you were referring to, where this conversation occurred?
A. Yes.
Q. Your recollection is that you requested the meeting.
And what was your purpose in requesting the meeting?
A. I don't know what the specific precipitating event was, but almost always it had to do with storm drainage when Pioneer was involved.
Q. Right. Okay. This is about the time of the emergency ordinance, your manual has been

circulated for comment, I believe Pioneer's position was well-known to you at that point.
Was your meeting in any way designed to get Pioneer to reconsider, change its position or the problems of like conflict between the two?
A. That would be consistent with most of the meetings that I had with Pioneer.
Q. You testified previously that these comments in Joan Meitl's application about whether you had to get approval from the irrigation district for discharging, your opinion was that was not accurate, it was just as a courtesy that we did that, we didn't have to get their review and approval; right? And the application the mayor signed for the EPA permit, you did not agree with that statement?
A. That's only partially correct. If there was land that had not historically drained, I felt that we needed to get their approval --
Q. Right.
A. -- in those circumstances.
Q. Right.
A. But to continue a discharge, I didn't think I needed to be -- the land be subjected to that --

Exhibit E

Moffatt Thomas

MOFFATT THOMAS BARRETT ROCK & FIELDS, CHTD.

Boise
Idaho Falls
Pocatello
Twin Falls

Eugene C. Thomas
John W. Barrett
R. B. Rock
Richard C. Fields
John S. Simko
John C. Ward
D. James Manning
David B. Lincoln
Gary T. Dance
Larry C. Hunter
Randall A. Peterman
Mark S. Prusynski
Stephen R. Thomas
Glenna M. Christensen
Gerald T. Husch
Scott L. Campbell
Robert B. Burns

Michael E. Thomas
Patricia M. Olsson
Christine E. Nicholas
Bradley J Williams
Lee Radford
Michael O. Roe
Nancy J. Garrett
David S. Jensen
James L. Martin
C. Clayton Gill
Michael W. McGreaham
David P. Gardner
Julian E. Gabiola
Tara Martens
Kimberly D. Evans Ross
Mark C. Peterson
Tyler J. Anderson

Jon A. Stenquist
Jason G. Murray
Rebecca A. Rainey
Paul D. McFarlane
Tyler J. Henderson
C. Edward Cather III
Andrew J. Waldera
Dylan B. Lawrence
Benjamin C. Ritchie
Matthew J. McGee
David J. Dance

Robert E. Bakes, *of counsel*

Willis C. Moffatt, 1907-1980
Kirk R. Helvie, 1956-2003

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September 8, 2009

Misha Vakoc
Manager, NPDES Permits Unit
United States EPA - Region 10
1200 Sixth Avenue, Suite 900
OWW-130
Seattle, Washington 98101

Re: Pioneer Irrigation District
Comments on NPDES Permit Number IDS-028118
MTBR&F File No. 18946.0059

Dear Ms. Vakoc:

I am writing on behalf of my client, Pioneer Irrigation District, concerning the above referenced matter. The EPA administrative record should contain my October 20, 2008 correspondence to you on this matter. In the event it does not and to ease your review of this matter, I have enclosed a copy of that prior correspondence.

I am writing again because recent events have shed light on new information which is relevant to issuance of the referenced permit to the City of Caldwell. As I pointed out in my October correspondence, Pioneer is very concerned about the City's policy and practice of requiring urban developments to install municipal storm water discharge pipes into water conveyance facilities owned or operated by Pioneer without its permission. Based upon that concern, Pioneer expressed its disagreement with the draft permit because it did not prohibit this practice.

Because of the extreme consequences of the City's policy and practice, Pioneer instituted litigation in Idaho District Court to obtain judicial relief. During the course of discovery in that case, Pioneer conducted the deposition of Gordon Law, City Engineer when the City submitted the application for permit to EPA. Mr. Law was deposed as the Rule 30(b)(6) representative of the City. During his deposition, Mr. Law was asked about the veracity of the following statements contained in the application for permit. At page 16 of the application, it states:

> On-site retention has been formally required at least since 1994, and as a matter of policy at least since 1992. Developments proposing to discharge to a ditch, drain or pond under the jurisdiction of another entity are subject to the review and approval of the entity operating or maintaining the ditch, drain or pond.

(National Pollutant Discharge Elimination System – Permit Application, p. 16.)

Under questioning from Brad Williams, attorney for Pioneer, Mr. Law was asked:

> Q. The question is, with respect to that last sentence that "Proposed developments proposing to discharge to a ditch, drain, or pond under the jurisdiction of another entity are subject to review and approval of the entity operating or maintaining the ditch, drain, or pond," is that a true and accurate statement as of this date here, to your knowledge?
>
> A. No.

(Deposition of Gordon Law, July 23, 2009, 181:7-181:15.)

In later questioning, Mr. Williams returned to this issue and directed the following question to Mr. Law:

> Q. You testified previously that these comments in Joan Meitl's application about whether you had to get approval from the irrigation district for discharging, your opinion was that was not accurate, it was just a courtesy that we did that, we didn't have to get their review and approval; right? And the application the mayor signed for the EPA permit, you did not agree with that statement?
>
> A. That's only partially correct. If there was land that had not historically drained, I felt that we needed to get their approval.

(Deposition of Gordon Law, July 23, 2009, 232:8-232:19.)

In order to properly document these exchanges, I have enclosed copies of the relevant pages and exhibits from the deposition transcript which contain the exchanges.

My point in providing this newly discovered information to you is to emphasize the severity of the situation. The City intends to ignore Pioneer's legitimate concerns about the water quality and flooding risks which will arise from the City's policy and practices. Most disturbing is the City's apparent disregard of the requirements of federal law that the application for permit contain accurate information. *See* 40 C.F.R. § 121.22(d). Given the apparent misrepresentations contained in the application for permit on the key issue of concern to Pioneer, my client respectfully requests that any final permit contain the following language in the permit conditions: **No discharges are authorized by this Permit to constructed waterways, owned, operated, or maintained by irrigation entities without their written permission.**

This condition language is the minimum necessary to avoid wholesale degradation of Pioneer's water and elevated flood risks by the City's reliance upon any final permit. In view of the City's apparent willingness to ignore the requirements of federal law regarding the content of the application for permit, Pioneer believes EPA owes a public duty to the population served by Pioneer that the City be restricted in this fashion in its future actions regarding municipal storm water.

Pioneer appreciates the seriousness of your deliberations and ultimate decisions in this matter. The long term consequences to Pioneer patrons will be significant.

Please contact me at your convenience if you have questions.

Very truly yours,

Scott L. Campbell

SLC/dll
Enclosures
cc: Pioneer Irrigation District

Exhibit F

National Pollutant Discharge Elimination System (NPDES) Permit for

City of Caldwell
Municipal Separate Storm Sewer System (MS4)

NPDES Permit No. IDS-028118

Response to Comments on Proposed Permit

September 2009
U.S. Environmental Protection Agency, Region 10

annexing portions of NHD. Would these annexations then result in a physical alteration of the system requiring notification? If so, this provision would be unduly burdensome to the permittees. If necessary, notification may be accomplished annually within the required reporting process.

Response: Part V.G. of the Permit is considered a "standard permit condition" that is required to be included in all NPDES permits pursuant to the NPDES regulations at 40 CFR §122.41(l)(1). EPA cannot revise the text of a standard permit condition. EPA clarifies that Part V.G. does not require approval from EPA or IDEQ for planned changes to the MS4. Annexations of existing MS4s by one operator from another operator are not considered "physical changes or additions to the permitted facility" as envisioned by this regulation. If the operator has any questions as to whether something needs to be reported as a planned change, the operator should contact EPA for clarification.

71. **Revisions to Part V.B:** On December 11, 2008, EPA finalized the Civil Monetary Penalty Inflation Adjustment Rule as mandated by the Debt Collection Improvement Act of 1996. (See 73 FR 75340, December 11, 2008.) This rule adjusts for inflation the statutory civil monetary penalties that may be assessed for violations of EPA administered statutes and implementing regulations.

    EPA has revised Part V.B to reflect the adjusted penalties.

Comments Relevant to the City of Caldwell

72. **Comment (Pioneer Irrigation District [Irrigation District]):** The Irrigation District notes that the Permit is clear that the scope is expressly limited to property over which Caldwell have legal jurisdiction or authority.

    Response: Comment noted

73. **Comment (Pioneer Irrigation District):** The Irrigation District has broad rights and responsibilities as an irrigation entity. *See* Idaho Code §§ 42-1202, 42-1203, 42-1204, 42-1207, 42-1208, and 42-1209. These rights and responsibilities prohibit any encroachments into the Irrigation District's easements and rights-of-way without express written authorization. Caldwell has constructed and authorized the construction of storm water discharge outfalls into these easements, rights-of-way, etc.. This construction interferes with the purpose of these facilities and interferes with the proper operation and maintenance of these facilities. Therefore, the Irrigation District requests that EPA clarify in the Permit that the Permit issuance does not grant to Caldwell any jurisdiction or authority to take over these facilities. The Irrigation District suggests the addition of the following language: "No discharges are authorized by this Permit to constructed waterways, owned, operated or maintained by irrigation entities."

    Response: The issue appears to be the Irrigation District's concern over whether this Permit allows Caldwell to obtain some jurisdiction over the Irrigation

District's irrigation canals and other such facilities through the issuance of the Permit. EPA understands that there is ongoing litigation between the Irrigation District and Caldwell that concerns this exact issue. Section VI.H of the Permit makes it clear that the Permit does not convey this type of property right or jurisdiction. Since the Permit is clear that the Permit is not authorizing such property rights or jurisdictional rights, EPA declines to add the Irrigation District's suggested language.

74. **Comment (Pioneer Irrigation District):** The Irrigation District believes that Caldwell's municipal storm water discharges compromise water quality because the discharges adversely impact the designated uses of the irrigation canals.

Response: Section I.C.2 of the Permit has been revised as a result of public comment to state that "[t]he permittee is not authorized to discharge storm water that will cause, or have the reasonable potential to cause or contribute to, an excursion above Idaho water quality standards." Once the Permit is issued, if the permittees' discharges into waters of the U.S. contribute to an in-stream excursion above an Idaho water quality standard, then the permittee would be in violation of the Permit.

75. **Comment (Pioneer Irrigation District):** The irrigation canals and facilities owned by the Irrigation District were constructed for the delivery of seasonal irrigation and agricultural return flows. They were not designed to accept municipal storm water. The addition of storm water to the irrigation canals prevents the Irrigation District from performing routine off-season maintenance and the increase of storm water due to an increase in impervious surfaces causes an increased risk of flooding. The Irrigation District therefore states that the Permit must not authorize use of the permittee's SWMP because it increases the risk of property damage and poses a danger to human life and aquatic wildlife. Moreover, it impermissibly shifts the liabilities and burdens from the permittees to the Irrigation District.

Response: EPA understands the Irrigation District's concerns regarding excess discharges into the irrigation canals and other Irrigation District facilities. However, all municipal storm water permits require the permittee to implement a storm water management program (SWMP). The SWMP is the heart of the MS4 permit and it requires the permittees to implement BMPs that will reduce pollutants in the storm water to the maximum extent practicable. EPA does not have the authority to eliminate the SWMP from the Permit. *See* 40 C.F.R. §§ 122.26 & 122.34. *See also* Response to Comment #73 regarding the liabilities and burdens to the Irrigation District.

76. **Comment (Pioneer Irrigation District):** Caldwell has allowed developers to install multiple points of municipal storm water discharge into the Irrigation District's irrigation and drainage facilities without authorization. This practice jeopardizes the Irrigation District's protections under the irrigation return flow.

Response: Irrigation/agricultural return flows are excluded from regulation under the NPDES program. See 40 C.F.R. § 122.3(f). Storm water discharges from certain MS4s, construction sites greater than one acre, certain industries, and other designated storm water sources require an NPDES permit. 40 C.F.R. § 122.26. Irrigation return flows are exempt from storm water permit coverage and the commingling of irrigation return flow and storm water does not automatically revoke the exempt status of the irrigation return flow. *See* 55 Fed. Reg. 47990, 47996 (Nov. 16, 1990). The MS4 discharges may be authorized by a permit at the point they discharge to receiving waters or at the point they discharge into a separate conveyance. If the MS4 discharge is permitted before it is commingled with the irrigation return flow, the operator of the conveyance transporting the commingled flow does not need its own NPDES permit for the commingled discharge and the irrigation return flow would retain its exemption. In other words, if the MS4 discharges into the Irrigation District's irrigation facilities are permitted, then the irrigation return flow exemption would remain. It should be noted, however, that if the MS4 discharge or other NPDES regulated discharge is unpermitted when it enters the Irrigation District's facilities, then the Irrigation District may need to be authorized to discharge under a NPDES permit. Therefore, if there are NPDES regulated point source discharges into the Irrigation District's facilities, it would be in the Irrigation District's best interest to ensure that those point source discharges are permitted through an appropriate NPDES permit such as the City MS4 Permit at issue here. *See also* letter from James Hanlon, Director, EPA Office of Wastewater Management, to William Schweitzer, Director, ACHD, dated July 20, 2007.

77. **Comment regarding Parts II.B.1 and II.B.2 (Pioneer Irrigation District):** Parts II.B.1 and II.B.2 require Caldwell to develop and implement a public education program and involve interested stakeholders in the development of a SWMP. The Irrigation District does not believe that Caldwell has demonstrated that they will adequately comply with this Permit provision. The Irrigation District does not believe that the issuance of the Permit will foster cooperation or more respect for the Irrigation District's rights and obligations. The Irrigation District requests that EPA modify the Permit to require the permittee to more effectively educate and address stakeholders about the environmental impacts of municipal storm water discharges and about the impacts of these discharges upon the legal rights of others.

Response: The Permit requires the City to develop and implement a public education program and to involve interested stakeholders in the development of the SWMP. If the permittee does not comply with the provisions of the Permit, the permittee would be in violation of the Permit.

78. **Comment regarding Part II.B.3 of the Permit (Pioneer Irrigation District):** Part II.B.3 of the Permit requires the permittees to develop and implement illicit discharge detection and elimination activities. Over the past years, the City has

made no effort to meaningfully regulate illicit discharges as it pertains to urban storm water, despite clear danger and complaints. The Irrigation District believes that this evidences lack of good faith. The Irrigation District requests EPA's acknowledgement that Caldwell's improper utilization of the Irrigation District's property, including illicit discharge detection and elimination activities, will not be authorized or condoned by EPA's issuance of the Permit.

Response: The Permit requires the permittees to develop and implement an illicit discharge detection and elimination program. Upon issuance of the permit, if the City fails to implement such a program, the City would be in violation of their Permit and could be subject to EPA enforcement action. With regard to the comment concerning the Irrigation District's property rights, see Response to Comment #73.

79. **Comment regarding Parts II.B.4 and II.B.5 of the Permit (Pioneer Irrigation District):** Parts II.B.4 and II.B.5 of the Permit requires the City to develop and implement construction site control activities and post-construction storm water management in new development and redevelopment. The City's administration and implementation of the current SWMP concerns the Irrigation District because in the Irrigation District's view the City does not take into consideration other stakeholders with regard to these components of the SWMP. The Irrigation District requests that EPA consider how the existing narrative limitations and requirements of the Permit will incentivize a more pro-active approach to construction site control and post-construction storm water management when EPA approves continued development of a SWMP that provides for unauthorized storm water discharge onto the private property of others. The Irrigation District further requests EPA's acknowledgement that EPA is not authorizing the permittees to utilize the Irrigation District's property in construction site control activities or in the implementation of post-construction storm water management.

Response: This is the first NPDES permit issued to the City for MS4 storm water discharges. To that extent, this Permit requires the City to develop and implement construction site control activities and requirements for post-construction storm water management in new development and redevelopment. If the City fails to implement these required programs, the City would be in violation of their permit and could be subject to enforcement action. With regard to the Irrigation District's property right concerns, see Response to Comments #73.

80. **Comment (Pioneer Irrigation District):** While EPA clearly has the authority to require the City's compliance with the Permit, it does not have the authority to require Pioneer Irrigation District's compliance with the Permit or to preempt state law governing the Irrigation District's rights and obligations.

Response: The Permit is being issued to the City of Caldwell. Pioneer Irrigation District is not named as a permittee in any of the eight NPDES permits issued to MS4 operators in the Boise or Nampa Urbanized Areas, and is not required to

comply with the Permit requirements. Moreover, with regard to the Pioneer Irrigation District's rights and obligations, see Response to Comments #73.

81. **Comment regarding the comments submitted to EPA by Pioneer Irrigation District, dated October 30, 2008 (Caldwell):** EPA should reject Pioneer's request for certain language to be added to the Permit, as such requests go beyond the scope of the permit and EPA's authority. The City does not agree with Pioneer Irrigation District's contention that the permit must include a statement that requirements imposed on the City of Caldwell through the NPDES permit "are not an affirmative grant of power over Pioneer or its facilities."

The City also does not agree with Pioneer Irrigation District's request that the permit state that no discharge authorized by this permit be allowed to "constructed waterways owned, operated or maintained by irrigation entities. "

The scope and effect of an NPDES permit is already accounted for in Part VI.H and VI.J of the permit, and are consistent with 40 CFR §122.5 . Pioneer's request to include certain permit restrictions goes too far. Caldwell's right and ability to discharge stormwater flows into canals and drains also used by Pioneer arises . from other sources and authorities and cannot be abrogated or affected by EPA in this Permit.

Response: EPA must include and review Pioneer Irrigation District's comments pursuant to 40 CFR 124.11. EPA recognizes that the City and Pioneer Irrigation District are currently in litigation concerning this issue. EPA is authorized to issue NPDES permits with conditions and limitations appropriate for the MS4 permit. *See* Section 402 of the CWA, 33 U.S.C. § 1342. The City submitted a NPDES permit application for discharges from its MS4 outfalls. EPA is authorizing the discharge from the City owned/operated MS4 subject to the conditions and limitations set forth in the Permit. EPA does not have the authority to prohibit discharges into "constructed waterways owned, operated or maintained by irrigation entities." EPA feels this matter should be resolved between the City and Pioneer Irrigation District.

82. **Comment regarding Part I.B (Caldwell):** At the end of existing Part I.B. the City recommends adding the following sentence:

> "This permit also authorizes discharges of storm water and allowable non-stormwater discharges subject to the conditions of this permit when such discharges are commingled with flows or discharges from irrigated agriculture, agricultural stormwater runoff or othe discharges or flows with a valid NPDES permit exclusion under 40 CFR §122.3."

Response: EPA declines to add the sentence as requested. EPA feels the NPDES program exemptions provided in federal regulations in 40 CFR 122.3, combined with the City Permit provisions contained in Part I.C, are sufficient to authorize

such non-stormwater discharges through the City's MS4.

83. **Comment regarding Part I.C (Caldwell):** The City suggests adding a new section, as Part I.C.5, to clarify the effect of this permit on NPDES exempt discharges, and suggests the following language:

> "5. Effect of Permit on Valid Exemptions. Neither this permit nor discharges under the terms of this permit shall affect valid point source exemptions for return flows from irrigated agriculture and agricultural stormwater runoff or other valid NPDES permit exclusions under 40 CFR 122.3 when such exempt discharges commingle with discharges authorized by this permit."

The City believes this language is consistent with EPA policy, practice, and the Clean Water Act case law. Further, it specifically addresses Pioneer Irrigation District's contention that EPA's permit exposes Pioneer Irrigation District to liability under the Clean Water Act.

Response: EPA declines to edit the Permit as suggested by the City. Irrigation return flows and agricultural storm water runoff are exempt from NPDES permitting requirements. Specifically, CWA Section 502(14) defines a "point source" as "any discernible confined and discrete conveyance ... from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff." *See also* 40 CFR § 122.2. In a letter from EPA's Office of Wastewater Management dated July 20, 2007, to Ada County Highway District, EPA explained that "if the point source discharge is already subject to an NPDES permit (e.g., an MS4 permit) before it is commingled with the irrigation return flow, the operator of the conveyance transporting that commingled flow does not need its own NPDES permit for the commingled discharge.... However, if there are any sources of stormwater discharged into the conveyance that require a [NPDES] permit but have not received that permit, then the discharges of the resulting mixture of the stormwater and irrigation return flows could be subject to NPDES permit requirements." *See* letter from James Hanlon, Director, EPA Office of Wastewater Management, to William Schweitzer, Director, ACHD, dated July 20, 2007.

Here, the City has applied for coverage for its municipal storm water discharges from its MS4. Some of these storm water discharges flow into irrigation canals owned by Pioneer Irrigation District. As long as the City has a NPDES permit that covers the municipal storm water discharges into the irrigation canals, Pioneer Irrigation District would not be liable for an unauthorized discharge unless the water in the irrigation canals are not irrigation return flow or agricultural storm water runoff.

84. **Comment regarding Part I.B - Authorized Discharges (Caldwell):** At the end

of existing Part I.B. the commenter recommends adding the following sentence:

> "This permit also authorizes discharges of storm water and allowable non storm water discharges subject to the conditions of this permit when such discharges are commingled with flows or discharges from irrigated agriculture, agricultural storm water runoff, or other discharges or flows with a valid NPDES permit exclusion under 40 CFR 122.3."

Response: EPA disagrees that the suggested text is necessary, and declines make the change suggested. See Response to Comment #14.

85. **Comment regarding Part IV.A.5.a (Caldwell):** The only known outfall on Mason Creek is connected to a detention area and is unlikely to result in any discharges until a storm event exceeding the 2 year average occurs. Also, the three outfalls in the Boise River are all submerged. Therefore it may be difficult or impossible to sample outfalls in accordance with this part and Table IV.A. The commenter recommends the permit require sampling four times per year from the target areas at the target quarterly intervals when weather conditions make such sampling possible.

Response: EPA acknowledges the difficulty of collecting samples from certain storm water outfalls. The purpose of this sampling is to obtain some limited information and data regarding the quality of the storm water discharged to water bodies listed as impaired by IDEQ. EPA has therefore revised the text of Part IV.A.5.a of the Caldwell Permit in the following manner:

> "The permittee must sample at least one storm water outfall discharging to each of the following water bodies: Indian Creek, Mason Creek and the Boise River. The permittee may identify alternative location(s) in the monitoring plan and sample at such alternative locations if the minimum number of outfalls per water body are not available to the permittee. The permittee must sample discharges from a minimum of three outfalls.