



# FACT SHEET

**The United States Environmental Protection Agency (EPA)  
Plans To Reissue A National Pollutant Discharge Elimination System (NPDES) Permit to  
each of the following facilities:**

City of Bonners Ferry  
City of Firth  
City of Homedale

City of Mackay  
City of Marsing  
City of New Meadows

City of Parma  
Riverside Sewer District  
City of Shelly

**Technical Contacts:**

Kathleen Collins (206-553-2108), collins.kathleen@epa.gov  
Susan Poulson (206-553-6258), poulson.susan@epa.gov  
(1-800-424-4372 - within EPA Region 10)

**EPA Proposes To Reissue NPDES Permits**

EPA proposes to reissue the NPDES permits to the facilities referenced above. The draft permits place conditions on the discharge of pollutants from each wastewater treatment plant to waters of the United States. In order to ensure protection of water quality and human health, the permits place limits on the types and amounts of pollutants that can be discharged from each facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations, and other conditions for each facility
- a map and description of the discharge locations
- technical material supporting the conditions in each permit

**The State of Idaho Proposes Certification for Facilities that Discharge to State Waters**

EPA is requesting that the Idaho Department of Environmental Quality certify the NPDES permits for those facilities that discharge to state waters, under section 401 of the Clean Water Act. All of the facilities referenced above, except for the Riverside Sewer District, discharge to State waters. The Riverside Sewer District is located on the Nez Perce Reservation and EPA will certify the permit.

**Public Comment**

Persons wishing to comment on, or request a Public Hearing for the draft permit for any of these facilities may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester's

name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the Public Notice expires, and all comments have been considered, EPA's Regional Director for the Office of Water will make a final decision regarding permit reissuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, EPA will address the comments and issue the permit. The permit will become effective 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days.

**Documents are Available for Review.**

The draft NPDES permits and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see address below). The draft permits, fact sheet, and other information can also be found by visiting the Region 10 website at "[www.epa.gov/r10earth/water.htm](http://www.epa.gov/r10earth/water.htm)."

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue, OW-130  
Seattle, Washington 98101  
(206) 553-2108 or  
1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The fact sheet and draft permits are also available at:

EPA Idaho Operations Office  
1435 North Orchard Street  
Boise, Idaho 83706  
(208) 378-5746

## TABLE OF CONTENTS

ACRONYMS .....	5
I. APPLICANTS .....	7
II. FACILITY INFORMATION .....	7
III. RECEIVING WATER .....	7
A. Water Quality Standards .....	8
B. Water Quality Limited .....	8
IV. EFFLUENT LIMITATIONS .....	9
A. Basis for Permit Effluent Limits .....	9
B. Proposed Effluent Limitations .....	9
V. MONITORING REQUIREMENTS .....	10
A. Basis for Effluent and Surface Water Monitoring .....	10
B. Effluent Monitoring .....	10
C. Surface Water Monitoring .....	15
VI. SLUDGE (BIOSOLIDS) REQUIREMENTS .....	15
VII. OTHER PERMIT CONDITIONS .....	16
A. Quality Assurance Plan .....	16
B. Operation and Maintenance Plan .....	16
C. Additional Permit Provisions .....	16
VIII. OTHER LEGAL REQUIREMENTS .....	16
A. Endangered Species Act .....	16
B. Essential Fish Habitat .....	17
C. State/Tribal Certification .....	17
D. Permit Expiration .....	17
Appendix A - Facility Information .....	A-1
Appendix B - Basis for Effluent Limitations .....	B-1
Appendix C - Location of Facilities .....	C-1

## LIST OF TABLES

Table 1: Monthly, Weekly and Instantaneous Maximum Effluent Limitations .....	10
Table 2a: Effluent Monitoring Requirements (>0.5 - 1.0 mgd Design Flow) .....	12
Table 2b: Effluent Monitoring Requirements (>0.1 - 0.5 mgd Design Flow) .....	13
Table 2c: Effluent Monitoring Requirements (up to 0.1 mgd Design Flow) .....	14
Table 3: Surface Water Monitoring Requirements .....	15

## ACRONYMS

1Q10	1 day, 10 year low flow
7Q10	7 day, 10 year low flow
AML	Average Monthly Limit
BOD <sub>5</sub>	Biochemical oxygen demand, five-day
BE	Biological evaluation
°C	Degrees Celsius
cfs	Cubic feet per second
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
I/I	Inflow and Infiltration
lbs/day	Pounds per day
LTA	Long Term Average
mg/L	Milligrams per liter
ml	milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit
MPN	Most Probable Number
N	Nitrogen
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OW	Office of Water
O&M	Operations and maintenance
POTW	Publicly owned treatment works
QAP	Quality assurance plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
s.u.	Standard Units
TMDL	Total Maximum Daily Load
TRE	Toxicity Reduction Evaluation
TSD	Technical Support document (EPA, 1991)
TSS	Total suspended solids
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Services
UV	Ultraviolet radiation

WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WWTP	Wastewater treatment plant

## **I. APPLICANTS**

This fact sheet provides information on the draft permits for the following facilities:

<u>Facility</u>	<u>NPDES Permit Number</u>
City of Bonners Ferry	ID-002022-2
City of Firth	ID-002498-8
City of Homedale	ID-002042-7
City of Mackay	ID-002302-7
City of Marsing	ID-002120-2
City of New Meadows	ID-002315-9
City of Parma	ID-002177-6
Riverside Sewer District	ID-002450-3
City of Shelley	ID-002013-3

## **II. FACILITY INFORMATION**

These draft permits are for the discharge of effluent from municipal wastewater treatment plants. These facilities treat primarily residential and commercial wastewater.

The facilities provide secondary treatment through either activated sludge systems or wastewater stabilization ponds (lagoons). Disinfection may be provided using either chlorination or ultraviolet (UV) radiation. Information specific for each of the treatment facilities is provided in Appendix A.

## **III. RECEIVING WATER**

Specific receiving water information available for each of the facilities is provided in Appendix A. The information includes:

- Receiving water body
- Subbasin
- Low flow conditions - including the 1 day, 10 year low flow (1Q10), and the 7 day, 10 year low flow (7Q10) when it is available
- Beneficial uses of the water body
- Identification of water quality limited segments

## A. Water Quality Standards

An NPDES permit must ensure that the discharge from the facility complies with the State/Tribe's water quality standards. A State/Tribe's water quality standards<sup>1</sup> are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as cold water biota, contact recreation, etc.) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary, by the State/Tribe, to support the beneficial use classification of each water body. The anti-degradation policy represents a three tiered approach to maintain and protect various levels of water quality and uses.

Some of the facilities discharge to Tribal waters for which the Tribe has not yet adopted water quality standards. In this case, EPA's practice is to apply adjacent or downstream standards to the water body for the purpose of developing permit limitations and conditions. Therefore, the State of Idaho water quality standards were applied to these permits.

Because the effluent limits in the draft permits are based on current water quality criteria or technology-based limits that have been shown to not cause or contribute to an exceedence of water quality standards, the discharges, as authorized in the draft permits, will not result in degradation of the receiving water.

## B. Water Quality Limited

Any waterbody for which the water quality does not, and/or is not expected to meet, applicable water quality standards is defined as a "water quality limited segment."

Section 303(d) of the Clean Water Act (CWA) requires states to develop a Total Maximum Daily Load management plan, more commonly referred to as a "TMDL," for water bodies determined to be water quality limited segments. The TMDL documents the amount of a pollutant a waterbody can assimilate without violating a state's water quality standards and allocates that load to known point sources and nonpoint sources. The allocations for point sources are then incorporated into the NPDES permit.

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<sup>1</sup> Idaho's water quality standards are contained in *Water Quality Standards and Wastewater Treatment Requirements* (IDAPA 58.01.02.)



#### IV. EFFLUENT LIMITATIONS

##### A. Basis for Permit Effluent Limits

In general, the CWA requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits or water quality-based limits. Technology-based limits are set according to the level of treatment that is achievable using available technology. A water quality-based effluent limit is designed to ensure that the water quality standards of a waterbody are being met and they may be more stringent than technology-based effluent limits. The basis for the proposed effluent limits in the draft permit are provided in Appendix B.

##### B. Proposed Effluent Limitations

The following summarizes the proposed effluent limitations that are in the draft permits.

1. The pH range must be between 6.5 to 9.0 standard units.
2. There must be no discharge of any floating solids, visible foam in other than trace amounts, or oily wastes that produce a sheen on the surface of the receiving water.
3. Table 1, below presents the proposed average monthly, average weekly, and instantaneous maximum effluent limits for 5-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and escherichia coli (E. Coli), and chlorine (if applicable), and the percent removal requirements for BOD<sub>5</sub>, and TSS.

<b>Table 1: Monthly, Weekly and Instantaneous Maximum Effluent Limitations</b>					
<b>Parameters</b>	<b>Units</b>	<b>Average Monthly Limit</b>	<b>Average Weekly Limit</b>	<b>Percent Removal</b>	<b>Instantaneous Maximum Limit</b>
BOD <sub>5</sub>	mg/L	Facility Specific	Facility Specific	---	---
	lbs/day	Facility Specific <sup>1</sup>	Facility Specific <sup>1</sup>	---	---
	%			Facility Specific	
TSS	mg/L	Facility Specific	Facility Specific	---	---
	lbs/day	Facility Specific <sup>1</sup>	Facility Specific <sup>1</sup>	---	---
	%	---	---	Facility Specific	
E. coli Bacteria <sup>2</sup>	colonies/100 ml	126 <sup>3</sup>	---	---	406
E. coli Bacteria <sup>4</sup>	colonies/100 ml	126 <sup>3</sup>	---	---	576
Chlorine <sup>5</sup>	mg/L	0.5	0.75	---	---
	lbs/day	Facility Specific <sup>1</sup>	Facility Specific <sup>1</sup>	---	---

Notes:

- 1 Loading (in lbs/day) is calculated for each facility as:  
concentration (in mg/L) \* design flow (in mgd) \* conversion factor of 8.34
- 2 Applies to facilities that discharge to receiving waters that are protected for primary contact recreation
- 3 Based on the geometric mean of all samples taken during the month.
- 4 Applies to facilities that discharge to receiving waters that are protected for secondary contact recreation
- 5 Applies only to those facilities that chlorinate.

## V. MONITORING REQUIREMENTS

### A. Basis for Effluent and Surface Water Monitoring

Section 308 of the CWA and the federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) to the U.S. Environmental Protection Agency (EPA).

## B. Effluent Monitoring

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples can be used for averaging if they are conducted using EPA approved test methods (generally found in 40 CFR 136) and if the Method Detection Limits (MDLs) are less than the effluent limits.

Facilities described in this fact sheet range in size from a discharge of a few thousand gallons per day up to potentially 1 million gallons per day (mgd). Given this wide range in discharge volume, the draft permits require monitoring frequency and sample type which are reflective of the facility size as specified by design flow. Facilities with higher design flows are required to monitor more frequently than facilities with lower design flows. In addition, facilities with higher design flows are required to take 8-hour composite samples for BOD<sub>5</sub>, TSS, and ammonia, whereas, smaller facilities are required to take grab samples for these parameters.

Tables 2a through 2c present the monitoring requirements for the permittees in the draft permits. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. The monitoring samples must not be influenced by combination with other effluent. If no discharge occurs during the reporting period, "no discharge" shall be reported on the DMR.

<b>Table 2a: Effluent Monitoring Requirements (&gt;0.5 - 1.0 mgd Design Flow)</b>				
<b>Parameter</b>	<b>Unit</b>	<b>Sample Location</b>	<b>Sample Frequency<sup>1</sup></b>	<b>Sample Type</b>
Flow	mgd	Effluent	continuous	recording
BOD <sub>5</sub>	mg/L	Influent and Effluent	1/month	8-hour composite
	lbs/day	Influent and Effluent	1/month	calculation <sup>2</sup>
	% Removal	--	–	calculation <sup>3</sup>
TSS	mg/L	Influent and Effluent	1/month	8-hour composite
	lbs/day	Influent and Effluent	1/month	calculation <sup>2</sup>
	% Removal	--	–	calculation <sup>3</sup>
pH	standard units	Effluent	5/week	grab
E. coli Bacteria	colonies/100 ml	Effluent	5/month	grab
Temperature <sup>4,5</sup>	°C	Effluent	1/month	grab
Chlorine <sup>6</sup>	mg/L	Effluent	5/week	grab
Total Ammonia as N <sup>4</sup>	mg/L	Effluent	1/month	8-hour composite
Total Phosphorus as P <sup>4,5</sup>	mg/L	Effluent	1/month	8-hour composite
Dissolved Oxygen <sup>4,5</sup>	mg/L	Effluent	1/month	grab
Notes: 1 The sampling frequency may differ in the permit if the facility discharges intermittently. 2 Maximum daily loading is calculated by multiplying the concentration in mg/L by the average daily flow in mgd and a conversion factor of 8.34. 3 Percent removal is calculated using the following equation: (influent - effluent) ÷ influent. 4 Monitoring is required for one year. 5 Monitoring is required only if the receiving water is water quality limited for the parameter. 6 Applies only to those facilities that chlorinate.				

<b>Table 2b: Effluent Monitoring Requirements (&gt;0.1 - 0.5 mgd Design Flow)</b>				
<b>Parameter</b>	<b>Unit</b>	<b>Sample Location</b>	<b>Sample Frequency<sup>1</sup></b>	<b>Sample Type</b>
Flow	mgd	Effluent	1/week <sup>2</sup>	measure <sup>2</sup>
BOD <sub>5</sub>	mg/L	Influent and Effluent	1/month	8-hour composite
	lbs/day	Influent and Effluent	1/month	calculation <sup>3</sup>
	% Removal	--	–	calculation <sup>4</sup>
TSS	mg/L	Influent and Effluent	1/month	8-hour composite
	lbs/day	Influent and Effluent	1/month	calculation <sup>3</sup>
	% Removal	--	–	calculation <sup>4</sup>
pH	standard units	Effluent	1/week	grab
E. coli Bacteria	colonies/100 ml	Effluent	5/month	grab
Temperature <sup>5,6</sup>	°C	Effluent	1/month	grab
Chlorine <sup>7</sup>	mg/L	Effluent	1/ week	grab
Total Ammonia as N <sup>5</sup>	mg/L	Effluent	1/month	8-hour composite
Total Phosphorus as P <sup>5,6</sup>	mg/L	Effluent	1/month	8-hour composite
Dissolved Oxygen <sup>5,6</sup>	mg/L	Effluent	1/month	grab
<p>Notes:</p> <ol style="list-style-type: none"> <li>1 The sampling frequency may differ in the permit if the facility discharges intermittently.</li> <li>2 If the current permit for a facility requires that the permittee monitor flow using a continuous recording, or requires a different monitoring frequency this permit provision is retained in the draft permit.</li> <li>3 Maximum daily loading is calculated by multiplying the concentration in mg/L by the average daily flow and a conversion factor of 8.34.</li> <li>4 Percent removal is calculated using the following equation: (influent - effluent) ÷ influent.</li> <li>5 Monitoring is required for one year of permit of only.</li> <li>6 Monitoring is required only if the receiving water is water quality limited for the parameter.</li> <li>7 Applies only to those facilities that chlorinate.</li> </ol>				

<b>Table 2c: Effluent Monitoring Requirements (up to 0.1 mgd Design Flow)</b>				
<b>Parameter</b>	<b>Unit</b>	<b>Sample Location</b>	<b>Sample Frequency<sup>1</sup></b>	<b>Sample Type</b>
Flow	mgd	Effluent	1/week <sup>2</sup>	measure <sup>2</sup>
BOD <sub>5</sub>	mg/L	Influent and Effluent	1/month	grab
	lbs/day	Influent and Effluent	1/month	calculation <sup>3</sup>
	% Removal	--	–	calculation <sup>4</sup>
TSS	mg/L	Influent and Effluent	1/month	grab
	lbs/day	Influent and Effluent	1/month	calculation <sup>3</sup>
	% Removal	--	–	calculation <sup>4</sup>
pH	standard units	Effluent	1/week	grab
E. coli Bacteria	colonies/100 ml	Effluent	5/month	grab
Temperature <sup>5,6</sup>	°C	Effluent	1/month	grab
Chlorine <sup>7</sup>	mg/L	Effluent	1/week	grab
Total Ammonia as N <sup>5</sup>	mg/L	Effluent	1/month	grab
Total Phosphorus as P <sup>5,6</sup>	mg/L	Effluent	1/month	grab
Dissolved Oxygen <sup>5,6</sup>	mg/L	Effluent	1/month	grab
<p>Notes:</p> <ol style="list-style-type: none"> <li>1 The sampling frequency may differ in the permit if the facility discharges intermittently.</li> <li>2 If the current permit for a facility requires that the permittee monitor flow using a continuous recording, or requires a different monitoring frequency, this permit provision is retained in the draft permit.</li> <li>3 Maximum daily loading is calculated by multiplying the concentration in mg/L by the average daily flow and a conversion factor of 8.34.</li> <li>4 Percent removal is calculated using the following equation: (influent - effluent) ÷ influent.</li> <li>5 Monitoring is required for one year.</li> <li>6 Monitoring is required only if the receiving water is water quality limited for the parameter.</li> <li>7 Applies only to those facilities that chlorinate.</li> </ol>				

C. Surface Water Monitoring

Table 3 presents the proposed surface water monitoring requirements for the draft permits. The permittees should work with the IDEQ Regional Office to establish the appropriate upstream monitoring location.

<b>Table 3: Surface Water Monitoring Requirements</b>			
<b>Parameter</b>	<b>Sample Location</b>	<b>Sample Frequency<sup>2</sup></b>	<b>Sample Type</b>
Ammonia, mg/L	Upstream of treatment plant outfall	1/ quarter	grab
pH, standard units	Upstream of treatment plant outfall	1/quarter	grab
Temperature, °C	Upstream of treatment plant outfall	1/quarter	grab
Total Phosphorus as P <sup>1</sup>	Upstream of treatment plant outfall	1/quarter	grab
Dissolved Oxygen <sup>1</sup>	Upstream of treatment plant outfall	1/quarter	grab
Notes:			
1 Monitoring is required only if the receiving water is water quality limited for the parameter.			
2 The sampling frequency may differ in the permit if the facility discharges intermittently.			

**VI. SLUDGE (BIOSOLIDS) REQUIREMENTS**

EPA Region 10 separates wastewater and sludge permitting. Under the CWA, EPA has the authority to issue separate sludge-only permits for the purposes of regulating biosolids. EPA may issue a sludge-only permit to each facility at a later date, as appropriate.

Until future issuance of a sludge-only permit, sludge management and disposal activities at each facility continue to be subject to the national sewage sludge standards at 40 CFR Part 503 and any requirements of the State's biosolids program. The Part 503 regulations are self-implementing, which means that permittees must comply with them whether or not a permit has been issued.

## **VII. OTHER PERMIT CONDITIONS**

### **A. Quality Assurance Plan**

The federal regulation at 40 CFR 122.41(e) requires the permittee to develop procedures to ensure that the monitoring data submitted is accurate and to explain data anomalies if they occur. The permittees are required to develop and implement a Quality Assurance Plan within 180 days of the effective date of the final permit. The Quality Assurance Plan shall consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting.

### **B. Operation and Maintenance Plan**

The permits require the Permittee to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. Each Permittee is required to develop and implement an operation and maintenance plan for their facility within 180 days of the effective date of the final permit. The plan shall be retained on site and made available to EPA and IDEQ upon request.

### **C. Additional Permit Provisions**

Sections II, III, and IV of the draft permits contain standard regulatory language that must be included in all NPDES permits. Because they are regulations, they cannot be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

## **VIII. OTHER LEGAL REQUIREMENTS**

### **A. Endangered Species Act**

The Endangered Species Act requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. Biological evaluations (BEs) analyzing the effects of the discharge from the treatment facilities on listed endangered and threatened species in the vicinity of the facilities were prepared. The BEs are available upon request. The BEs determined that issuance of these permits will not affect any of the threatened or endangered species in the vicinity of the discharges.



B. Essential Fish Habitat

Essential fish habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires EPA to consult with the National Marine Fisheries Service (NMFS) when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. The EPA has tentatively determined that the issuance of these permits will not affect any EFH species in the vicinity of the discharges, therefore consultation is not required for this action.

C. State/Tribal Certification

Section 401 of the CWA requires EPA to seek State/Tribal certification before issuing a final permit. As a result of the certification, the State/Tribe may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards.

Some of the facilities discharge to Tribal waters for which the Tribe has not yet adopted water quality standards. In this case, the provisions of Section 401 of the CWA requiring State/Tribe certification of the permit do not apply. The EPA will conduct the 401 certification of these permits.

D. Permit Expiration

The permits will expire five years from the effective date of the permits.

## Appendix A - Facility Information

**City of Bonners Ferry**

NPDES ID Number: ID-002022-2  
Mailing Address: P.O. Box 149  
Bonners Ferry, Idaho 83805  
Facility Background: The facility's existing permit became effective August 23, 1986. The current permit application was received in May 2001.

**Collection System Information**

Service Area: City of Bonners Ferry and adjoining areas  
Service Area Population: 3000  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: Four cell lagoon with two mechanical paddle aerators in the center of cell one; gravity flow through the four cells ends at a chlorine disinfection station.  
Design Flow: 0.45 mgd  
Existing Flow: 0.385 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 48° 41' 52" N, longitude: 116° 19' 57" W

**Receiving Water Information**

Receiving Water: Kootenai River  
Subbasin: Lower Kootenai (HUC 17010104)  
Beneficial Uses: Cold water communities, primary contact recreation, drinking water, and special resource water.  
Water Quality Limited Segment: not listed  
Low Flow: 1Q10 = 2,620 cfs, 7Q10 = 2,670 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility qualifies for concentration-based and percent removal treatment equivalent secondary (TES) limits for BOD<sub>5</sub> and TSS.

**City of Firth**

NPDES ID Number: ID-002498-8  
Mailing Address: P.O. Box 37  
Firth, Idaho 83236  
Facility Background: The facility's existing permit became effective September 30, 1987. The current permit application was received in June 2001.

**Collection System Information**

Service Area: City of Firth, City of Basalt  
Service Area Population: 860  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: lagoons and ultraviolet disinfection  
Design Flow: 0.8 mgd  
Existing Flow: 0.4 mgd (summer average daily flow rate)  
0.109 mgd (winter average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 43° 18' 32" N, longitude: 112° 11' 31 W  
Inflow/Infiltration: The facility has high Inflow/Infiltration during the summer months when the irrigation canals feed water which makes the groundwater table rise. The city has TV'd all the lines.

**Receiving Water Information**

Receiving Water: Snake River (river mile 780)  
Subbasin: American Falls (HUC 17040206)  
Beneficial Uses: Cold water communities, primary contact recreation, drinking water, and salmonid spawning.  
Water Quality Limited Segment: This segment of the Snake River is listed for dissolved oxygen, sediment, and nutrients.  
Low Flow: 1Q10 = 1,206 cfs, 7Q10 = 1,465 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility qualifies for concentration-based and percent removal treatment equivalent secondary (TES) limits for BOD<sub>5</sub> and TSS.

**City of Homedale**

NPDES ID Number: ID-002042-7  
Mailing Address: P.O. Box 757  
Homedale, Idaho 83628  
Facility Background: The facility's existing permit became effective October 28, 1985. The current permit application was received in September 2001.

**Collection System Information**

Service Area: City of Homedale  
Service Area Population: 2500  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: lagoon system followed by chlorination  
Design Flow: 0.45 mgd  
Existing Flow: 0.25 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 43° 38' 02" N, longitude: 116° 57' 26" W

**Receiving Water Information**

Receiving Water: Snake River (approximately 1.4 miles northwest of the center of Homedale)  
Subbasin: Middle Snake-Succor (HUC 17050103)  
Beneficial Uses: Cold water communities, primary contact recreation, and drinking water.  
Water Quality Limited Segment: A draft TMDL for the Mid Snake-Succor Subbasin was published in April 2003. For the Snake River from Swan Falls to Boise River, the draft TMDL de-listed bacteria, sediment, and pH; provided a phosphorus WLA for Homedale if the facility increases beyond its current design capacity; and listed temperature as a parameter of concern.  
Low Flow: 1Q10 = 4,900 cfs, 7Q10 = 5,070 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility qualifies for concentration-based and percent removal treatment equivalent secondary (TES) limits for BOD<sub>5</sub> and TSS.

**City of Mackay**

NPDES ID Number: ID-002302-7  
Mailing Address: P.O. Box 509  
Mackay, Idaho 83251  
Facility Background: The facility's existing permit became effective May 1986.  
The current permit application was received in October 2001.

**Collection System Information**

Service Area: City of Mackay  
Service Area Population: 566  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: Aerated lagoon followed by chlorination  
Design Flow: 0.18 mgd  
Existing Flow: 0.065 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 43° 54' 00"N, longitude: 113° 36' 40"W

**Receiving Water Information**

Receiving Water: Big Lost River  
Subbasin: Big Lost (HUC 17040218)  
Beneficial Uses: Cold water communities, primary contact recreation, drinking water, salmonid spawning, and special resource water.  
Water Quality Limited Segment: This segment is not listed, but downstream from this segment the Big Lost River is listed for dissolved oxygen, nutrients, sediment, and temperature.  
Low Flow: 1Q10 = 39 cfs, 7Q10 = 44 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility qualifies for concentration-based and percent removal treatment equivalent secondary (TES) limits for BOD<sub>5</sub> and TSS.

**City of Marsing**

NPDES ID Number: ID-002120-2  
Mailing Address: P.O. Box 125  
Marsing, Idaho 83639  
Facility Background: The facility's existing permit became effective April 1986.  
The current permit application was received in October 2001.

**Collection System Information**

Service Area: City of Marsing  
Service Area Population: 898  
Collection System Type: 80% separated sanitary sewer, 20% combined storm and sanitary sewer

**Facility Information**

Treatment Train: Lagoon system followed by chlorination  
Design Flow: 0.30 mgd  
Existing Flow: 0.01 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 43° 33' 06"N, longitude: 116° 48' 12"W

**Receiving Water Information**

Receiving Water: Snake River (river mile 423.7)  
Subbasin: Middle Snake-Succor (HUC 17050103)  
Beneficial Uses: Cold water communities, primary contact recreation, and drinking water, special resource water.  
Water Quality Limited Segment: A draft TMDL for the Mid Snake-Succor Subbasin was published in April 2003. For the Snake River from Swan Falls to Boise River, the draft TMDL de-listed bacteria, sediment, and pH; provided a phosphorus WLA for Marsing if the facility increases above the current design capacity of the facility; and listed temperature as a parameter of concern.  
Low Flow: 1Q10 = 4,900 cfs, 7Q10 = 5,070 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility qualifies for concentration-based and percent removal treatment equivalent secondary (TES) limits for BOD<sub>5</sub> and TSS.

**City of New Meadows**

NPDES ID Number: ID-002315-9  
Mailing Address: P.O. Box 324  
New Meadows, Idaho 83650  
Facility Background: The facility's existing permit became effective November 1986. The current permit application was received in May 2001.

**Collection System Information**

Service Area: City of New Meadows  
Service Area Population: 576  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: lagoons followed by chlorination  
Design Flow: 0.36 mgd  
Existing Flow: 0.10 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 44° 58' 38"N, latitude: 116° 17' 26"W

**Receiving Water Information**

Receiving Water: Little Salmon River  
Subbasin: Little Salmon (HUC 17060210)  
Beneficial Uses: Cold water communities, primary contact recreation, drinking water, salmonid spawning, and special resource water.  
Water Quality Limited Segment: This segment is not listed  
Low Flow: 1Q10 = 94 cfs, 7Q10 = 109 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility can meet all of the secondary treatment limits for BOD<sub>5</sub> therefore the draft permit includes these limits; however, the facility qualifies for treatment equivalent secondary (TES) limits for TSS and these limits have been included in the draft permit for TSS.

**City of Parma**



NPDES ID Number: ID-002177-6  
Mailing Address: P.O. Box 608  
Parma, Idaho 83660  
Facility Background: The facility's existing permit became effective November 1985. The current permit application was received in August 2001.

**Collection System Information**

Service Area: City of Parma  
Service Area Population: 1771  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: Lagoons followed by chlorination  
Design Flow: 0.68 mgd  
Existing Flow: 0.32 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 43° 47' 20" N, longitude: 116° 57' 30"W

**Receiving Water Information**

Receiving Water: Sandhollow Creek  
Subbasin: Lower Boise (HUC 17050114)  
Beneficial Uses: Cold water communities, primary contact recreation.  
Water Quality Limited Segment: This segment is listed for dissolved oxygen, nutrients, and sediment  
Low Flow: 1Q10 = 4,900 cfs, 7Q10 = 5,230 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility qualifies for concentration-based and percent removal treatment equivalent secondary (TES) limits for BOD<sub>5</sub> and TSS.

**Riverside Sewer District**

NPDES ID Number: ID-002450-3  
Mailing Address: 10460 Highway 12  
Orofino, Idaho 83544  
Facility Background: The facility's existing permit became effective July 1987.  
The current permit application was received in June 2001.

**Collection System Information**

Service Area: City of Riverside  
Service Area Population: 1800  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: lagoons followed by chlorination  
Design Flow: 0.88 mgd  
Existing Flow: 0.18 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 46° 30' 11"N, longitude: 116° 20' 14"W

**Receiving Water Information**

Receiving Water: Clearwater River  
Subbasin: Clearwater (HUC 17060306)  
Beneficial Uses: Cold water communities, primary contact recreation, drinking water, salmonid spawning, and special resource water.  
Water Quality Limited Segment: not listed  
Low Flow: 1Q10 = 717 cfs, 7Q10 = 874 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility can meet the concentration-based and percent removal secondary treatment limits for BOD<sub>5</sub>. The facility qualifies for the concentration-based treatment equivalent to secondary limits for TSS. Since there is no data available for percent removal for TSS the secondary treatment limit applies.

Tribal Information This facility discharges to the Nez Perce Reservation.

**City of Shelley**

NPDES ID Number: ID-002013-3  
Mailing Address: 101 S. Emerson  
Shelley, Idaho 83274  
Facility Background: The facility's existing permit became effective June 1988.  
The current permit application was received in June 2001.

**Collection System Information**

Service Area: City of Shelley  
Service Area Population: 3812  
Collection System Type: 100% separated sanitary sewer

**Facility Information**

Treatment Train: lagoons followed by ultraviolet disinfection  
Design Flow: 0.46 mgd  
Existing Flow: 0.34 mgd (average daily flow rate)  
Months when Discharge Occurs: year round  
Outfall Location: latitude: 43° 22' 44" N, longitude: 112° 07' 31"W

**Receiving Water Information**

Receiving Water: Snake River  
Subbasin: American Falls (HUC 17040206)  
Beneficial Uses: Cold water communities, primary contact recreation, drinking water, and salmonid spawning.  
Water Quality Limited Segment: This segment of the Snake River is listed for dissolved oxygen, sediment, and nutrients  
Low Flow: 1Q10 = 1206 cfs, 7Q10 = 1465 cfs

**Additional Notes**

Basis for BOD<sub>5</sub>/TSS Limits: The facility can meet concentration-based secondary treatment limits for BOD<sub>5</sub>, and the concentration-based and percent removal treatment equivalent secondary limits for TSS. The facility qualifies for the "reduced percent removal requirements for less concentrated influent water," and therefore the percent removal limit for BOD<sub>5</sub> will be 65%.

## Appendix B - Basis for Effluent Limitations

The Clean Water Act (CWA) requires Publicly Owned Treatment Works (POTW) to meet effluent limits based on available wastewater treatment technology. These types of effluent limits are called secondary treatment effluent limits. EPA may find, by analyzing the effect of an effluent discharge on the receiving water, that secondary treatment effluent limits are not sufficiently stringent to meet water quality standards. In such cases, EPA is required to develop more stringent water quality-based effluent limits which are designed to ensure that the water quality standards of the receiving water are met.

Secondary treatment effluent limits may not limit every parameter that is in an effluent. For example, secondary treatment effluent limits for POTWs have only been developed for five-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), and pH, yet effluent from a POTW may contain other pollutants such as bacteria, chlorine, ammonia, or metals depending on the type of treatment system used and the service area of the POTW (i.e., industrial facilities as well as residential areas discharge into the POTW). When technology based effluent limits do not exist for a particular pollutant expected to be in the effluent, EPA must determine if the pollutant may cause or contribute to an exceedance of the water quality standards for the water body. If a pollutant causes or contributes to an exceedance of a water quality standard, water quality-based effluent limits for the pollutant must be incorporated into the permit.

The following discussion explains in more detail the derivation of technology based effluent limits, and water quality based effluent limits. Part A discusses technology based effluent limits, Part B discusses water quality based effluent limits, and Part C discusses facility specific limits.

### A. Technology Based Effluent Limits

#### 1. BOD<sub>5</sub>, TSS and pH

##### Secondary Treatment:

The CWA requires POTWs to meet performance-based requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level, referred to as “secondary treatment,” that all POTWs were required to meet by July 1, 1977. EPA developed “secondary treatment” regulations which are specified in the 40 CFR 133. These technology-based effluent limits apply to all municipal wastewater treatment plants, and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD<sub>5</sub>, TSS, and pH. The secondary treatment effluent limits are listed in Table B-1.

<b>Table B-1: Secondary Treatment Effluent Limits</b>			
<b>Parameter</b>	<b>Average Monthly Limit</b>	<b>Average Weekly Limit</b>	<b>Range</b>
BOD <sub>5</sub>	30 mg/L	45 mg/L	---
TSS	30 mg/L	45 mg/L	---
Removal Rates for BOD <sub>5</sub> and TSS	85%	---	---
pH	---	---	6.0 - 9.0 s.u.

Treatment Equivalent to Secondary:

The regulations include special considerations, referred to as “treatment equivalent to secondary”, for waste stabilization ponds and trickling filters. The regulations allow alternative limits for BOD<sub>5</sub> and TSS for facilities using trickling filters or waste stabilization ponds provided the following requirements are met (40 CFR 133.101(g), and 40 CFR 133.105(d)):

- The BOD<sub>5</sub> and TSS effluent concentrations consistently achievable through proper operation and maintenance of the treatment works exceed the minimum level of the effluent quality described above (Secondary Treatment Effluent Limits).
- A trickling filter or waste stabilization pond is used as the principal treatment process.
- The treatment works provide significant biological treatment of municipal wastewater (i.e., a minimum of 65% reduction of BOD<sub>5</sub> is consistently attained).

Reduced Percent Removal Requirements for Less Concentrated Influent Wastewater:

In accordance with 40 CFR § 133.103 (d), treatment works that receive less concentrated wastes from separate sewer systems can qualify to have their percent removal limits reduced provided that all of the following conditions are met:

- The facility can consistently meet its permit effluent concentration limits but cannot meet its percent removal limits because of less concentrated influent water
- The facility would have been required to meet significantly more stringent limitations than would otherwise be required by the concentration-based standards and
- The less concentrated effluent is not the result of excessive inflow/infiltration (I/I).

Draft Permit Limits:

The past five years of monitoring data for each of the facilities were examined to determine if any considerations were necessary in designating effluent limits for BOD<sub>5</sub> and TSS (such as treatment equivalent to secondary limits or reduced percent removal requirements).

The data review indicated that the facilities could not consistently achieve all secondary treatment limits, and therefore considerations for “treatment equivalent to secondary” or “less concentrated influent wastewater” were necessary.

## 2. Chlorine

A technology-based average monthly chlorine effluent limitation of 0.5 mg/L for wastewater treatment plants is derived from standard operating practices. The Water Pollution Control Federation's Chlorination of Wastewater (1976) states that a properly designed and maintained wastewater treatment plant can achieve adequate disinfection if a 0.5 mg/L chlorine residual is maintained after 15 minutes of contact time. A treatment plant that provides adequate chlorination contact time can meet the 0.5 mg/L limit on a monthly average basis. In addition to average monthly limits (AMLs), NPDES regulations require effluent limits for POTWs to be expressed as average weekly limits (AWLs) unless impracticable. The AWL is derived as 1.5 times the AML, resulting in an AWL for chlorine of 0.75 mg/L.

## 3. Mass-based Limits

The federal regulation at 40 CFR § 122.45 (f) require BOD<sub>5</sub>, TSS, and chlorine limitations to be expressed as mass based limits using the design flow of the facility. The mass based limits are expressed in lbs/day and are calculated as follows:

Mass based limit (lbs/day) = concentration limit (mg/L) x design flow (mgd) x 8.34

## B. Water Quality-Based Effluent Limits

The following discussion is divided into four sections. Section 1 discusses the statutory basis for including water quality based effluent limits in NPDES permits, section 2 discusses the procedures used to determine if water quality based effluent limits are needed in an NPDES permit, section 3 discusses the procedures used to develop water quality based effluent limits, and section 4 discusses the specific water quality based limits.

### 1. Statutory Basis for Water Quality-Based Limits

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Discharges to state/tribal waters must also comply with limitations imposed by the state/tribe as part of its certification of NPDES permits under section 401 of the CWA.

The NPDES regulation (40 CFR 122.44(d)(1)) implementing section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state/tribal water quality standard, including state/tribal narrative criteria for water quality.

The regulations require that this evaluation be made using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

### 2. Reasonable Potential Analysis

When evaluating the effluent to determine if water quality-based effluent limits are needed based on chemical specific numeric criteria, a projection of the receiving water concentration (downstream of where the effluent enters the receiving water) for each pollutant of concern is made. The chemical specific concentration of the effluent and receiving water and, if appropriate, the dilution available from the receiving water are factors used to project the receiving water concentration. If the projected concentration of the receiving water exceeds the numeric criterion for a specific chemical, then there is a reasonable potential that the discharge may cause or contribute to an excursion above the applicable water quality standard, and a water quality-based effluent limit is required.

Sometimes it is appropriate to allow a small area of receiving water to provide dilution of the effluent, these areas are called mixing zones. Mixing zone allowances will increase the mass loadings of the pollutant to the water body, and

decrease treatment requirements. Mixing zones can be used only when there is adequate receiving water flow volume and the receiving water is below the chemical specific numeric criterion necessary to protect the designated uses of the water body. Mixing zones must be authorized by the Idaho Department of Environmental Quality.

3. Procedure for Deriving Water Quality-Based Effluent Limits

The first step in developing a water quality based permit limit is to develop a wasteload allocation (WLA) for the pollutant. A wasteload allocation is the concentration or loading of a pollutant that the permittee may discharge without causing or contributing to an exceedance of water quality standards in the receiving water.

In cases where a mixing zone is not authorized, either because the receiving water already exceeds the criterion, the receiving water flow is too low to provide dilution, or the state/tribe does not authorize one, the criterion becomes the WLA. Establishing the criterion as the wasteload allocation ensures that the permittee will not contribute to an exceedance of the criterion. The wasteload allocations have been determined for pH and E. coli bacteria in this way because the state/tribe does not generally authorize mixing zones for these pollutants. For these particular parameters, the wasteload allocation translates directly into the effluent limit without any statistical conversion.

4. Specific Water Quality-Based Effluent Limits

(a) Toxic Substances

The Idaho Water Quality Standards require surface waters of the state to be free from toxic substances in concentrations that impair designated uses. Because there are no significant industrial discharges to the facilities, and concentrations of priority pollutants from cities without a significant industrial component are low, it is anticipated that toxicity will not be a problem in the facility discharges. Therefore, water quality-based effluent limits have not been proposed for the draft permits.

(b) Floating, Suspended or Submerged Matter/Oil and Grease

The Idaho Water Quality Standards require surface waters of the state to be free from floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions that may impair designated beneficial uses. A narrative condition is proposed for the draft permits that states there must be no discharge of floating solids or visible foam or oil and grease other than trace amounts.



(c) Excess Nutrients/Phosphorus

The Idaho Water Quality Standards require surface waters of the state be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.

If a facility discharges to a receiving water listed as water quality limited for nutrients, and a TMDL has not been developed, the draft permit requires effluent and receiving water monitoring for phosphorus. However, if a nutrient wasteload allocation from an EPA approved TMDL is available then it is incorporated into the draft permit.

(d) Sediment/Total Suspended Solids (TSS)

The draft permits include technology-based limits for TSS. If a facility discharges to a receiving water listed as water quality limited for sediment, the sediment wasteload allocation from the TMDL (if approved by the EPA) is incorporated into the draft permit limits.

(e) pH

The Idaho Water Quality Standards require surface waters of the state to have a pH value within the range of 6.5 - 9.5 standard units. It is anticipated that mixing zones will not be authorized for the water quality-based criterion for pH. Therefore, this criterion must be met before the effluent is discharged to the receiving water. The technology-based effluent limits for pH are 6.0 - 9.0 standard units. These limits must be met before the effluent is discharged to the receiving water. To ensure that both water quality-based requirements and technology-based requirements are met, the draft permits incorporate the lower range of the water quality standards (6.5 standard units) and the upper range of the technology-based limits (9.0 standard units).

(f) Dissolved Oxygen (DO)

The Idaho Water Quality Standards require the level of DO to exceed 6 mg/L at all times for water bodies that are protected for aquatic life use. Further, during salmonid spawning and incubation periods, the one day minimum intergravel DO must exceed 5 mg/L and the seven day average intergravel DO must exceed 6 mg/L.

If a facility discharges to a receiving water listed as water quality limited for DO, and a TMDL has not been developed, the draft permit requires effluent and receiving water monitoring for DO. However, if a DO wasteload allocation from an EPA approved TMDL is available then it is

incorporated into the draft permit.

(g) Temperature

The Idaho Water Quality Standards require ambient water temperatures of 22°C or less with a maximum daily average of no greater than 19°C for cold water biota protection. Further, water temperatures of 13°C or less with a maximum daily average not greater than 9°C are required for salmonid spawning use during the spawning and incubation periods.

If a facility discharges to a receiving water listed as water quality limited for temperature, and a TMDL has not been developed, the draft permit requires effluent and receiving water monitoring for temperature. However, if a temperature wasteload allocation from an EPA approved TMDL is available then it is incorporated into the draft permit.

(h) Ammonia

The Idaho Water Quality Standards contain water quality criteria to protect aquatic life, including salmonids, against short term and long term adverse impacts from ammonia. Currently, there are no ammonia data for the facilities to determine if ammonia may cause or contribute to a water quality standard violation. Since the data are not available to determine if water quality-based effluent limits are required for ammonia, the draft permits do not propose effluent limits for ammonia. However, the draft permits require monthly sampling for ammonia during one year of the permit. These data will be used to determine if an ammonia limit is needed for the discharge for the next permit.

(i) Escherichia Coli (E. Coli) Bacteria

According to the Idaho Water Quality Standards, waters designated for primary contact recreation are not to contain E. coli bacteria significant to the public health in concentrations exceeding:

- a. A single sample of four hundred and six E. coli organisms per one hundred ml; or
- b. A geometric mean of one hundred and twenty six E. coli organisms per one hundred ml based on a minimum of five samples taken, every three to five days, over a thirty day period.

Waters that are designated for secondary contact recreation are not to contain E. coli bacteria significant to the public health in concentrations exceeding:

- a. A single sample of five hundred and seventy six E. coli organisms per one hundred ml; or
- b. A geometric mean of one hundred and twenty six E. coli organisms per one hundred ml based on a minimum of five samples taken, every three to five days, over a thirty day period.

It is anticipated that mixing zones will not be authorized for bacteria, therefore, the criteria must be met before the effluent is discharged to the receiving water. The proposed water quality-based effluent limits in the draft permits include an instantaneous maximum limit of 406 organisms/100 ml, and an average monthly limit of 126 organisms/100 ml.

(j) Total Residual Chlorine

The Idaho Water Quality Standards contain water quality criteria to protect aquatic life against short term and long term adverse impacts from chlorine. Several of the facilities use chlorine disinfection. A reasonable potential analysis was conducted for each facility to determine if the discharge has the potential to exceed Idaho Water Quality Standards. The results indicated that the facilities would not have the potential to exceed water quality criteria. Therefore, the draft permits include technology-based chlorine limits. For facilities that do not chlorinate, chlorine is not expected to be present in the discharge and therefore no total residual chlorine limits have been included in those draft permits.

## Appendix C - Location of Facilities

To be added.