

# MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Division  
Water Protection Bureau  
P.O. Box 200901, Helena, MT 59620-0901

## Fact Sheet Montana Pollutant Discharge Elimination System

Permittee:	City of Fort Benton
Permit Number:	MT0021601
Receiving Water:	Missouri River
Facility Name:	City of Fort Benton Wastewater Treatment Facility (WWTF)
Facility Location:	Section 13, Township 24 North, Range 8 East, Chouteau County
Facility Address:	2610 Riverview Trail Fort Benton, MT 59442
Facility Contact:	Timothy Farwick, Utilities Superintendent PO Box 8 Fort Benton, MT 59442 (406) 622-5494
Facility Type:	Publicly-Owned Treatment Works, Minor
Number of Outfalls	One (for fee determination only)
Outfall – Type	001 – Treated Domestic Wastewater 002 – Treated Domestic Wastewater

### I. Permit Status

The City of Fort Benton Montana Pollutant Discharge Elimination System (MPDES) permit for the wastewater treatment facility became effective on October 1, 2013, and expires on September 30, 2018. The Montana Department of Environmental Quality (DEQ) is initiating a major modification of the permit. This fact sheet supports the major modification of the MPDES permit and outlines the rationale for the modified permit conditions. The modification is limited to the specific permit requirements described in this fact sheet. All other aspects of the permit issued in 2013 remain in effect and unchanged.

## II. Proposed Modifications

### A. Ground Water Monitoring

DEQ proposes removing all of the ground water monitoring requirements in Table 6 of 2013-issued permit because both Outfall 001 and 002 discharge to the Missouri River. Historically, the permittee wanted to pursue a ground water mixing zone for the discharge at Outfall 002. This is no longer the case making the ground water monitoring unnecessary.

### B. Receiving Water Monitoring

The table below titled Receiving Water Monitoring and Reporting Requirements summarizes the proposed new monitoring for the Missouri River upstream of the wastewater discharge Outfalls. DEQ proposes to decrease the monitoring because the permittee has collected three years of data giving DEQ an adequate data set for reassessing reasonable potential to exceed water quality standards and in turn develop water quality-based effluent limits if necessary for all parameters with the exception of arsenic and cadmium. Therefore, the continued requirement to monitoring the receiving water body for these two parameters (including hardness to calculate the water quality standard) remains in effect. The table below will appear in the modified permit.

<b>Receiving Water Monitoring and Reporting Requirements</b>							
<b>Parameter</b>	<b>Monitoring Location</b>	<b>Units</b>	<b>Sample Type<sup>(1)(2)</sup></b>	<b>Minimum Sampling Frequency</b>	<b>Reporting Requirements<sup>(1)</sup></b>	<b>Reporting Frequency</b>	<b>RRV<sup>(3)</sup></b>
Arsenic, Total Recoverable	Upstream of Discharge	µg/L	Composite	1/Quarter	Quarterly Average	Quarterly	1
Cadmium, Total Recoverable	Upstream of Discharge	µg/L	Composite	1/Quarter	Quarterly Average	Quarterly	0.03
Hardness, Total (as CaCO <sub>3</sub> )	Upstream of Discharge	mg/L	Grab	1/Quarter	Quarterly Average	Quarterly	-

Footnotes:  
(1) See definitions in Part V of the permit.  
(2) Grab sample will represent concentration for a 24 hour period.  
(3) When listed, the RRV is the detection level that must be achieved in reporting effluent monitoring or compliance data to DEQ. The RRV is DEQ's best determination of a level of analysis that is achievable by the majority of the commercial, university, or governmental laboratories using EPA approved methods or methods approved by DEQ. PQL (Practical Quantification Limits) are not acceptable substitutions for RRV.

### C. Effluent Monitoring

The table below titled Effluent Monitoring and Reporting Requirements summarizes the proposed new effluent monitoring and reporting. DEQ proposes to decrease the effluent monitoring to reflect the modifications to receiving water monitoring requirements and acknowledge that for the parameters removed from the effluent monitoring requirements (aluminum, chromium, copper, iron, lead, mercury, selenium, silver, zinc, and temperature) the permittee has collected adequate data for reasonable potential analysis and water quality-based effluent limits if appropriate in the subsequent permit renewal.

Effluent Monitoring and Reporting Requirements							
Parameter	Monitoring Location	Units <sup>(1)</sup>	Sample Type <sup>(1)(2)</sup>	Minimum Sampling Frequency	Reporting Requirements <sup>(1)(3)</sup>	Reporting Frequency	RRV <sup>(4)</sup>
5-day Biochemical Oxygen Demand	Outfall 001, Outfall 002	mg/L	Composite	1/Week	Weekly Maximum and Monthly Average	Monthly	-
		lbs/day <sup>(5)</sup>	Calculated				
		% Removal <sup>(6)</sup>	Calculated	1/Month	Monthly Average		
Total Suspended Solids	Outfall 001, Outfall 002	mg/L	Composite	1/Week	Weekly Maximum and Monthly Average	Monthly	-
		lbs/day <sup>(5)</sup>	Calculated				
		% Removal <sup>(6)</sup>	Calculated	1/Month	Monthly Average		
pH <sup>(7)</sup>	Outfall 001, Outfall 002	s.u.	Instantaneous	1/Month	Daily Maximum and Minimum, Monthly Average Maximum and Minimum	Monthly	-
Oil & Grease <sup>(8)</sup>	Outfall 001, Outfall 002	mg/L	Grab	1/Month	Daily Maximum and Monthly Average	Monthly	-
<i>Escherichia coli</i> Bacteria <sup>(9)</sup>	Outfall 001, Outfall 002	CFU/100 mL	Grab	1/Month	Daily Maximum and Monthly Average	Monthly	1
Effluent Flow Rate	Outfall 001, Outfall 002	mgd	Continuous	1/Week	Monthly Average	Monthly	-
Arsenic, Total Recoverable	Outfall 001, Outfall 002	µg/L	Composite	1/Quarter	Quarterly Average	Quarterly	1
Cadmium, Total Recoverable	Outfall 001, Outfall 002	µg/L	Composite	1/Quarter	Quarterly Average	Quarterly	0.03
Nitrate + Nitrite, as N	Outfall 001, Outfall 002	mg/L	Composite	1/Month	Monthly Average	Monthly	0.02
Total Ammonia, as N	Outfall 001, Outfall 002	mg/L	Composite	1/Month	Monthly Average	Monthly	0.07
Total Kjeldahl Nitrogen, as N	Outfall 001, Outfall 002	mg/L	Composite	1/Month	Monthly Average	Monthly	-
Total Nitrogen, as N <sup>(10)</sup>	Outfall 001, Outfall 002	mg/L	Calculated	1/Month	Monthly Average	Monthly	-
		lbs/day <sup>(5)</sup>					
Total Phosphorus, as P	Outfall 001, Outfall 002	mg/L	Composite	1/Month	Monthly Average	Monthly	0.003
		lbs/day <sup>(5)</sup>	Calculated				

Footnotes:  
(1) See definitions in Part V of the permit.  
(2) Grab sample will represent concentration for a 24 hour period.  
(3) Daily Maximum: report the highest measured daily value for the reporting period on Discharge Monitoring Report (DMR) forms.  
(4) When listed, the RRV is the detection level that must be achieved in reporting effluent monitoring or compliance data to DEQ. The RRV is DEQ's best determination of a level of analysis that is achievable by the majority of the commercial, university, or governmental laboratories using EPA approved methods or methods approved by DEQ. PQL (Practical Quantification Limits) are not acceptable substitutions for RRV.  
(5) Report the average of the individual daily loads for the reporting period on the DMR forms.  
(6) % Removal = [(Influent - Effluent)/Influent]\*100.  
(7) Report the highest and the lowest measured daily values for the reporting period on the DMR forms.  
(8) Hexane extraction method.  
(9) Report the geometric mean if more than one sampling event occurs during the monitoring period.  
(10) Total Nitrogen is the sum of the Nitrate + Nitrite and Total Kjeldahl Nitrogen parameters.

#### D. Outfalls for Fee Determination

DEQ is also reducing the number of outfalls from two to one for billing purposes. The effluent receives the same treatment from the wastewater treatment facility yielding similar effluent quality and the treated effluent is discharged to the same receiving water body, the Missouri River.

Historically, Outfall 002 was identified as a discharge to a different receiving water body (ground water) since this is no longer the case DEQ is reducing the number of billable outfalls to one.

### **III. References Cited or Consulted**

Administrative Rules of Montana, Title 17, Chapter 30, Sub-chapter 5 – *Mixing Zones in Surface and Ground Water*. September 30, 2010.

Administrative Rules of Montana, Title 17, Chapter 30, Sub-chapter 6 – *Surface Water Quality Standards and Procedures*. March 4, 2013.

Administrative Rules of Montana, Title 17, Chapter 30, Sub-chapter 7 – *Nondegradation of Water Quality*. September 30, 2010.

Administrative Rules of Montana, Title 17, Chapter 30, Sub-chapter 12 – *Montana Pollution Discharge Elimination System (MPDES) Standards*. April 10, 2012.

Administrative Rules of Montana, Title 17, Chapter 30, Sub-chapter 13 – *Montana Pollution Discharge Elimination System (MPDES) Permits*. December 21, 2012.

Montana Code Annotated (MCA), Title 75, Chapter 5, *Montana Water Quality Act*. 2011.

U.S. Environmental Protection Agency. 1991. Office of Water. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

Prepared by Rainie DeVaney; June, 2016.