



CITY OF  
**BAKER CITY**

June 4, 2025

Amanda Ondrick, *Eastern Region Basin Specialist*  
Oregon Department of Environmental Quality  
475 NE Bellevue, Drive, Suite 110  
Bend, OR 97701-7145

**RE: CITY OF BAKER CITY – POWDER RIVER BASIN TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION PLAN**

Dear DEQ Staff,

This cover letter provides the Oregon Department of Environmental Quality (DEQ) with a Total Maximum Daily Load (TMDL) Implementation Plan and Matrix for the City of Baker City (City) to meet the requirements of the Powder River Basin TMDL and Water Quality Management Plan (WQMP).

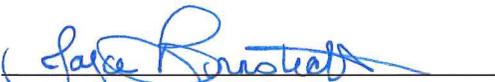
The Powder River Basin WQMP names Designated Management Agencies (DMAs) with land management jurisdiction in the basin to develop implementation plans to meet TMDL requirements. The City has been named as a DMA and is committed to working with DEQ to implement the TMDL. As such, the accompanying document outlines measurable objectives and milestones which the City has identified as strategies that will target the bacteria improvements in the Powder River Basin.

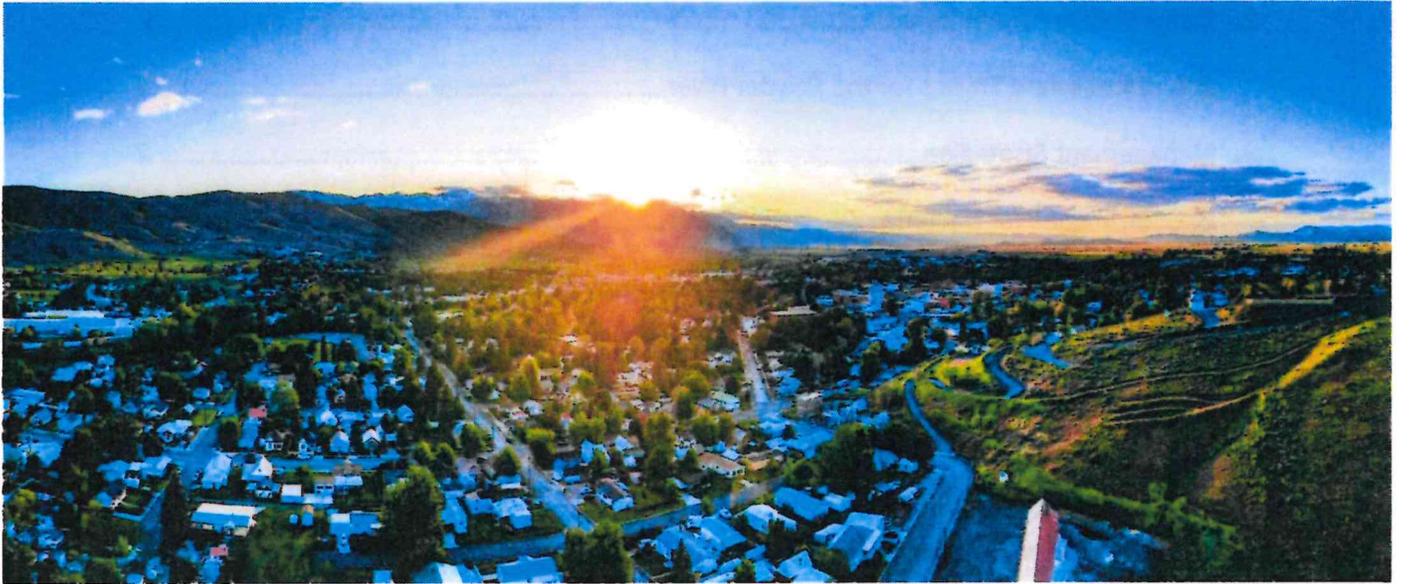
The City will submit a report to DEQ annually assessing the benefits of the bacteria improvements strategies and will also review and evaluate the effectiveness of the implementation plan every five years and revise the plan as required by DEQ.

The City will continue to collaborate with DEQ staff to ensure that progress is being made in implementing the TMDL. Please contact Joyce Bornstedt, *Public Works Director*, 541-524-2031, [bcpwdirector@bakercity.gov](mailto:bcpwdirector@bakercity.gov) with any questions.

Sincerely,

  
\_\_\_\_\_  
Barry Murphy, *City Manager*

  
\_\_\_\_\_  
Joyce Bornstedt, *Public Works Director*



# CITY OF BAKER CITY

## Total Maximum Daily Load (TMDL) Implementation Plan

**June 2025**  
PREPARED BY:  
City of Baker City  
1655 1st St  
Baker City, OR 97814



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## 1. Background and Implementation Plan Goals

As of May 2024, Oregon DEQ published the Powder River Basin TMDL for *E. Coli* to address impairments of water quality due to pollutants identified as *E. Coli*. Subsequently, a Water Quality Management Plan (WQMP) was also published to outline the process for Designated Management Agencies (DMAs) to establish implementation plans for their designated portions of the Powder River Basin to which they contribute.

Among other cities, counties and organizations, the City of Baker City (City) has been listed as a DMA. Thus, the City will develop an implementation plan as required by the WQMP to identify strategies to address the influences of potential pollutant contribution to the section of the Powder River Basin under its legal authority within its city limits. Additionally, the contribution of treated wastewater from the treatment plant currently permitted by the City's NPDES permit will continue to meet the requirements set forth by the permit.

## 2. Water Quality Assessment

The Powder River flows through the City of Baker City's city limits for approximately 3.4 miles. Aside from portions of the City's stormwater system, there are no other known tributaries or contributors to the Powder River under the City's legal authority.

### 2.1. Established TMDLs for the Powder River

A TMDL has been established for bacteria (*E. Coli*). The WQMP states, "*E. Coli* impairment of streams poses risk of illness for people, pets, livestock, and wildlife that use the waters within the basin for recreational contact, consumption, and irrigation (WQMP, 2024; pg. 1).

## 3. Management Strategies

Within the confines of controllable pollutant contributing factors for bacteria, established city practices and existing management of water quality are outlined and enforced by our City ordinances. The past, present and future success of these policies is evident through Oregon's 2022 Integrated Report, in which the City's section of the Powder River was not listed as Category 5 (impaired) (WQMP, 2024; pg. 1; TMDL, 2024; pg. 17). The City's Implementation Plan management strategies are described below as well as in the TMDL guidance – planning matrix (Attachment 1).

### 3.1. Strategies for Bacteria

DEQ lists potential non-point sources of *E. Coli* as, "wildlife, leaching from failing residential or business septic systems, stormwater runoff from roads not managed by the Oregon Department of Transportation, and runoff (including stormwater and irrigation water) from

agricultural and forest lands with annual or seasonal livestock populations” (TMDL, 2024; pg. 21).

The City’s ordinances that prohibit negative impacts on surface and ground water quality, public service practices of street cleaning and dead animal disposal, and ongoing efforts in stormwater management to upgrade undersized or damaged pipes and keep catch basins cleaned annually already address many different potential sources of bacteria in the Powder River. The following management strategies describe these efforts and their effectiveness in continuing to contribute to the TMDL's goals.

### 3.1.1. Reclaimed Water Storage and Land Application

The City is in the revision and implementation process of a WPCF permit to reclaim treated wastewater for use on land application instead of being discharged to the Powder River. This reclaimed water will be piped to a storage pond and accessed for approved land application within the WPCF permit. Although treated wastewater discharge is already monitored and regulated by the City’s NPDES permit, this progression toward land application will reduce or eliminate the future potential point-source of bacteria pollution.

### 3.1.2. Maximize Use of the City Sewer System

The City’s existing sewer system is comprised of 61 miles of integrated sewer pipe delivering sewage to the wastewater treatment plant. The City utilizes both ordinances and building codes to ensure that the sewer system is used by all residential and commercial buildings apart from a few private septic systems existing within city limits. The current City practice is once a septic system fails, it is required to connect to the City’s sewer system where available. When deemed necessary, the City conducts smoke testing and dye testing to determine whether properties in question are connected to the City’s sewer system.

### 3.1.3. City Ordinances

The City has established and implemented several ordinances to further protect the water quality of the Powder River within city limits. Violations of these ordinances are directly reportable by the public to the Code Enforcement Officer of the Police Department. The Public Works Department is also responsive to street spills, animal carcass removal from public streets, and storm catch basin management by means of the Emergency Dispatch Center (911). Listed below are the most pertinent ordinances pertaining mainly to non-point source pollution contributed to the Powder River via the storm collection system and surface water runoff. If necessary, these ordinances may be amended, and/or new ordinances may be introduced through a process and vote by the City Council as provided through instruction in the City Charter.

- Title V: Chapter 54.23:3b: “At such time as a public sewer becomes available to a property served by a private disposal system, a direct connection shall be made to the public sewer in compliance with this subchapter, and any septic tanks, cesspool and similar sewage disposal facilities shall be abandoned, cleaned and filled with suitable material.”
- Title V: Chapter 54.23:7: “Only certain allowed wastes in storm sewers. Only the following wastes shall be discharged to the storm sewer system: Storm water; Surface water; Ground water; Roof runoff; Parking area runoff; and Unpolluted industrial process water, with written permission of the City Engineer only, and only then when a valid and current NPDES waste discharge permit is in force governing the discharge.”
- Title IX: Chapter 90.30: “No person shall permit any animal carcass owned by him or her or under his or her control to remain upon the public streets or places for a period of time longer than is reasonably necessary to remove the carcass, and no person who is the owner of or has the control over any animal carcass shall permit the carcass to remain on any private property for a period of time longer than is reasonably necessary to remove the carcass.”
- Title IX: Chapter 90.31: “Any person owning or keeping any animal within the City shall properly maintain facilities for the animal in a sanitary condition and shall not permit accumulations of manure and other debris on the premises.”
- Title IX: Chapter 90.40: “The feeding of deer within the Incorporated City limits of Baker City shall be prohibited. It is the intent of the City of Baker and the Oregon Department of Fish and Wildlife to educate citizens and property owners on the complex issues surrounding the feeding of deer.”
- Title IX: Chapter 91: “Any person wishing to conduct a *cattle* drive within the City shall first give reasonable notice to the City police of his or her intention to do so, the approximate time the *cattle* drive will enter the City and the streets over which it will travel.”
- Title IX: Chapter 97.03: “*Water pollution.* The *pollution* of any body of water or stream or river by sewage, industrial wastes or other substances placed in or near the water in a manner that will cause harmful material to *pollute* the water;”
- Title IX: Chapter 90.35: “It shall be unlawful for a person owning or keeping a *dog* to allow the *dog* to deposit solid waste matter on any property other than that of the person owning or keeping the *dog*, unless the person owning or keeping the *dog* promptly removes the waste and disposes of it in a sanitary manner.”

### 3.1.4. City Practices

The City has maintenance and cleaning practices that reduce the potential for bacteria to migrate into the Powder River within the city limits. Listed below are regular and/or seasonal practices provided by the Public Works Department:

- **Street Sweeping:** A designated street sweeper position is kept busy sweeping all city streets throughout the year (as weather conditions permit) and is dispatched following street construction, accidental spills or other instances that require cleanup to prevent pollutants from entering the storm collection system.
- **Catch-Basin Cleaning:** City crews seasonally clean the storm collection system's catch basins by suction truck to remove decontaminating debris and potential hazardous substances from surface drainage.
- **Dog Waste Collection and Disposal:** The City contracts a company to maintain 13 dog waste bag stations along the Leo Adler walking pathway and within City parks that provide waste disposal bags as well as garbage receptacles and educational signage. There is also a designated dog exercise park with similar provisions.
- **Animal Carcass Removal:** When reported or noticed, City crews remove dead animals from city streets or coordinate with different agencies to remove dead animals from the Powder River for proper disposal at the landfill or approved disposal sites.

### 3.1.5. Public Education and Outreach

Providing educational information to the public on the TMDL program, DEQ requirements and the City's involvement is a priority to ensure our community is well-informed. DEQ's Be Septic Smart tri-fold informational pamphlet is available within City Hall's Public Works office, and TMDL information, DEQ website links, and the City's implementation plan are also accessible to the public via the City's website. Updates to the website will be made as they become available throughout the TMDL implementation process.

## 4. Performance Monitoring

The City continuously monitors its treatment plant operations and discharge sampling while discharging to the Powder River in order to meet the NPDES permit *E. Coli* limits. This data is submitted to DEQ in monthly Discharge Monitoring Reports (DMRs). Compliance with city ordinances is also surveyed and monitored across several City departments to preserve the Powder River water quality. Continuing efforts will be made to ensure the City is doing everything it can to support the TMDL for bacteria.

Attachment 1: Measures to Improve TMDL Conditions Matrix outlines the City's implementation plan in steps with timelines to track and assess the plan.

## 5. Plan Review, Revision, and Reporting Requirements

Following DEQ approval of this version of the Implementation Plan, the City of Baker City will review and evaluate this plan every five years to include additions and revisions as required by the WQMP. In addition, the City will submit annual reports that assess the effectiveness and benefits of the bacteria improvement strategies identified in this Implementation Plan.

The City's NPDES Permit already requires regular prescribed sampling of treated discharge contributing to the Powder River with established limitations compliant with the TMDL requirements for bacteria (Schedule A Waste Discharge Limitations Not to be Exceeded, Schedule B Minimum Monitoring and Reporting Requirements).

<b>SCHEDULE A</b>
<b>Waste Discharge Limitations Not to be Exceeded</b>

### 1. Wastewater treatment plant outfall 001 (when discharging)

Parameters	Limitations				
	Average Effluent Concentrations		Mass Loading (Based on the average dry weather design flow to the facility equaling 2.0 MGD)		
	Monthly mg/l	Weekly mg/l	Monthly Average lb/day	Weekly Average lb/day	Daily Maximum lbs
BOD <sub>5</sub>	45	65	750	1100	1500
TSS	85	140	1400	2100	2800
Other Parameters	Limitations (cont.)				
pH	Shall be within the range of 6.0 - 9.0.				
Total Residual Chlorine	Shall not exceed 0.02 mg/l for a daily average.				
<i>Escherichia coli (E. coli) bacteria</i>	Shall not exceed a 30 day log mean of 126 organisms per 100 ml. No single sample shall exceed 406 organisms per 100 ml (See Note 1/).				
BOD <sub>5</sub> and TSS percent removal efficiency	Shall not be less than 65% monthly average on a concentration basis.				
Thermal Load (See note 2/) and TMP (See note 3/)	Shall not exceed 74.8 kcal/day				

**Notes:**

1/If a single sample exceeds 406 organisms per 100 ml, then five consecutive re-samples may be taken at no less than four hour intervals over a two day period beginning within twenty-eight (28) hours after notification of the original sample result was received by the permittee. If the log mean of the five re-samples is less than or equal to 126 organisms per 100 ml, a violation shall not be triggered.

**SCHEDULE B**  
**Minimum Monitoring and Reporting Requirements**  
**(unless otherwise approved in writing by the Department)**

The permittee shall monitor the parameters as specified below at the locations indicated. The laboratory used by the permittee to analyze samples shall have a quality assurance/quality control (QA/QC) program to verify the accuracy of sample analysis. If QA/QC requirements are not met for any analysis, the results shall be included in the report, but not used in calculations required by the permit. When possible, the permittee shall re-sample in a timely manner for parameters failing the QA/QC requirements, analyze the samples, and report the results.

2. Outfall Number 001 (Wastewater Treatment Plant Discharge – When Discharging)  
 The facility sampling locations are the following:  
 \* Effluent grab and composite samples are collected on the upstream end of the Parshall flume located a few feet south of the office and lab.

Item or Parameter	Minimum Frequency	Type of Sample
Total Flow (MGD)	Daily	Totalizer
Flow Meter Calibration	Semi-annual	Verification
BOD <sub>5</sub>	2/week	24-hr Composite
TSS	2/week	24-hr Composite
pH	3/week	Grab
Total Residual Chlorine	Daily	Grab
Quantity Chlorine Used	Daily	Measurement
Average Percent Removal (BOD <sub>5</sub> )	Monthly	Calculation
Pounds Discharged (BOD <sub>5</sub> & TSS)	2/week	Calculation
Temperature, Daily Maximum When Discharging May through October	3/week	Grab (in afternoon)
Effluent Temperature, Average of Daily Maximums	1/week	Calculation
<i>E. Coli</i>	2/week	Grab (see note 1/)
NO <sub>2</sub> as N	Monthly	24-hr Composite
NO <sub>3</sub> as N	Monthly	24-hr Composite
TKN	Monthly	24-hr Composite
Orthophosphate	Monthly	24-hr Composite
Excess Thermal Load (ETL)	Weekly	Calculation (see note 2/)
Bioassays (See note 3/)	Quarterly in 2005	24-hour Composite for Acute and Chronic

Notes:

1/ *E. coli* monitoring must be conducted according to any of the following test procedures as specified in **Standard Methods for the Examination of Water and Wastewater, 19<sup>th</sup> Edition**, or according to any test procedure that has been authorized and approved in writing by the Director or their authorized representative:

Method	Reference	Page	Method Number
mTEC agar, MF	Standard Methods, 18 <sup>th</sup> Edition	9-29	9213 D
NA-MUG, MF	Standard Methods, 19 <sup>th</sup> Edition	9-63	9222 G
Chromogenic Substrate, MPN	Standard Methods, 19 <sup>th</sup> Edition	9-65	9223 B
Colilert QT	Idexx Laboratories, Inc.		

## 6. Evidence of Compliance with Land Use Requirements

All the goals and strategies listed in this implementation plan and attached matrix (Attachment 1) are compliant with the City of Baker City's land use plans. The City of Baker City will evaluate and maintain consistency with local and statewide land use laws in any future actions related to TMDL implementation.

## 7. References

Oregon Department of Environmental Quality (DEQ), 2024. Powder River Basin Total Maximum Daily Load (TMDL). May

Oregon Department of Environmental Quality (DEQ), 2024. Powder River Basin Water Quality Management Plan (MQMP). May

City of Baker City TMDL Implementation Plan Matrix															
Pollutant: Bacteria (E. Coli)	Source	Strategy	How	Fiscal Analysis	Measure	Timeline	Milestone	Status							
Bacteria from City sewer system		Continued WWTP Operation	Continue treating wastewater within NPDES permit guidelines	Funded: WW Dept.	Utilize settling, chlorination and detention time to ensure E. Coli levels remain within permit limits	Monthly DMR reporting of 2 E. coli samples per week while discharging to the Powder River	Maintain <406 organisms/ single sample, 30 day log mean of 126 organisms /100ml	Until land application begins							
						Continue restrictions on private septic systems	Maintain City sewer for City residents and continue requirements for sewer connections	Funded: WW Dept.	Continue to enforce City ordinance: Title V: Chapter 54.23:3b requiring residents to connect to city sewer and prohibits new privies, septic systems, cesspools, etc.	Ongoing	Ongoing				
						Retain restrictions on waste storage and disposal	Retain restrictions on animal carcass removal and continue practice of removing carcasses	N/A	Respond to complaints related to: City Ordinance Title IX Chapter 90.31, 90.35, 90.22; prohibits the accumulation of waste, proper disposal in a sanitary manner	As brought to the City's attention; each calendar day constitutes a separate violation and must be convicted	Ongoing				
						Retain ordinance prohibiting feeding deer	Retain ordinance regulating nuisances affecting public health	N/A	City Ordinance Title IX Chapter 90.30: ensures animal carcasses are removed and disposed of properly	As brought to the City's attention	Ongoing				
						Minimize domestic animal waste from reaching Powder River	Retain ordinance on cattle drives within City limits	Retain ordinance prohibiting feeding deer	N/A	Respond to complaints related to City Ordinance Title IX limits	As brought to the City's attention	Ongoing			
							Continue routine street sweeping	Continue routine catch basin cleaning	Funded: Street Fund	City street sweeper regularly sweeps weather permitting to remove debris and spills	Throughout the year and in response to spills	Ongoing			
						Bacteria carried to Powder River in storm/surface runoff			Leo Adler doggy bag program	Funded: Parks Dept.	Doggy bag stations are positioned along the Leo Adler pathway and City parks and kept stocked regularly with city trash receptacles removed weekly	Checked weekly by contracted service		Ongoing	

Attachment 2: Pictures of doggy bag stations at Dog Park, Geiser Pollman Park, Leo Adler Memorial Pathway

