

from flush to  
flowing in the river

# Journey of Ennis Wastewater

*A community effort to  
protect the Madison River*

The Town of Ennis wastewater system is designed to safely collect, treat, and disinfect wastewater before it is released into the Madison River. The system operates under state and federal permits that ensure the protection of public health, local ecosystems, and the quality of our treasured river.



## ENTRY



Wastewater begins its journey in your home or business—moving from sinks, toilets, dishwashers, and drains into user-owned service lines. The amount and type of material residents discharge helps determine how effectively the system can operate. When only wastewater, toilet paper, and approved household products enter the system, it performs as designed. When inappropriate materials are flushed or poured down drains, the system can become stressed, leading to blockages, treatment challenges, or damage.

## UV TREATMENT



After biological treatment, the cleaned water flows through a UV disinfection system. UV light inactivates pathogens by damaging their ability to reproduce, ensuring the water is safe before release.

## MAIN LINE



Each service line connects to the Town's sewer mains. This network of pipes carries all wastewater to the treatment lagoons using gravity. Every connection in this system represents a shared responsibility among neighbors: what each of us sends to the main becomes part of the whole community's wastewater stream.

## AERATION



Air is introduced into the lagoons to supply oxygen to the microorganisms. This oxygen keeps them active and able to break down organic material efficiently. A healthy aeration system supports a thriving biological community, but only if the wastewater reaching it is something the microorganisms can actually treat.

## DISCHARGE

Finally, treated wastewater is discharged to the Madison River, meeting strict standards set by the Montana Department of Environmental Quality. Properly treated water maintains oxygen levels, avoids harmful toxins, and supports the clarity and purity that keep the trout, and the people of Ennis, healthy and thriving.

## LAGOON



At the lagoons, wastewater enters a carefully balanced environment where naturally occurring microorganisms break down pollutants. These microorganisms need three things to thrive:

- **The right amount of "food"** (organic material)
- **Adequate oxygen**
- **Sufficient space to work**

When harmful chemicals, excessive solids, oils/grease, wipes, or other non-biodegradable materials enter the system, they disrupt this balance. Even small disruptions can slow treatment, reduce effectiveness, or harm the biological community that keeps the system functioning smoothly.

The lagoons work because nature is given the conditions it needs. Protecting those conditions begins with each household's choices at the drain.

